

REQUEST FOR PROPOSAL



PRESENTED TO: NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS

ATTN: PURCHASING DIVISION

616 SIX FLAGS DRIVE

ARLINGTON, TX 76011



REQUEST FOR PROPOSAL **TITLE: TXSHARE COOPERATIVE** **PURCHASING PROGRAM** **ARTIFICIAL INTELLIGENCE (AI)** **CONSULTANCY SERVICES**

DUE DATE/TIME: JANUARY 13, 2025, 12:00:00 PM PST

PROPOSAL BY:

TRYFACTA INC

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1. CERTIFICATE OF OFFEROR AND STATEMENT OF UNDERSTANDING

1.1 ADDENDA ACKNOWLEDGEMENT AND SIGNATURE OF AUTHORIZED REPRESENTATIVE

Please refer to [Appendix A](#).

1.2 BRIEF STATEMENT OF THE RESPONDENT'S UNDERSTANDING OF THE WORK

Tryfacta's understanding of Artificial Intelligence (AI) Consultancy Services issued by the North Central Texas Council of Governments (NCTCOG) is that this initiative seeks to harness the potential of AI to enhance operational efficiency, improve decision-making, foster innovation, and elevate service delivery across various governmental entities. NCTCOG, in collaboration with its TXShare Cooperative Purchasing Program, aims to establish a comprehensive framework for AI adoption that includes strategy development, pilot implementations, and long-term sustainability planning. We understand that the scope of work outlined in the RFP emphasizes the importance of tailoring AI solutions to specific departmental challenges, ensuring compliance with ethical and regulatory standards, and creating a robust data management strategy that prioritizes quality, governance, privacy, and security. The consultancy will be responsible for conducting detailed needs assessments, designing AI models and frameworks, developing implementation roadmaps, and supporting pilot testing, followed by scaling solutions across the organization. Moreover, the RFP highlights the need for providing hands-on training and knowledge transfer to internal teams to ensure they can independently manage and utilize AI systems. This approach underscores a commitment to fostering innovation, ensuring compliance, and delivering measurable long-term value through AI integration, with deliverables including a strategic AI roadmap, feasibility studies, implementation plans, and post-deployment evaluation reports. Our understanding of the overall objective is to enable governmental entities to leverage AI effectively while maintaining ethical, secure, and compliant operations, driving meaningful transformation within their operations.

2. KEY PERSONNEL

[Appendix B](#) includes resumes of team members involved in managing and delivering services under this RFP, detailing their expertise, experience, and capabilities to ensure successful project execution.

3. REFERENCES

3.1 REFERENCE 1

Organization Name: Miami Dade County, Department of Regulatory and Economic Resources	
Contact person: Angelique Bestard, Director, Information and Permit Support Division	
Phone number: (786) 315-2336	Email: angelique.bestard@miamidade.gov
Period of Performance: November 1, 2023, to December 31, 2024	
Brief Description of Work: Tryfacta's experience with Miami-Dade County's Department of Regulatory and Economic Resources showcases our expertise in delivering tailored AI-driven solutions for governmental operations. Our scope of work included evaluating departmental workflows to identify AI integration opportunities, developing customized tools to enhance regulatory compliance and decision-making, and implementing pilot programs for controlled testing and seamless scalability. We provided comprehensive training to over 200 employees through workshops tailored to skill levels, ensuring effective adoption and fostering continuous improvement. Performance metrics, including efficiency gains and user satisfaction, were established to measure success and support iterative enhancements. This strategic approach reflects our commitment to innovation, operational efficiency, and stakeholder alignment.	

3.2 REFERENCE 2

Organization Name: Dallas Area Rapid Transit (DART)	
Contact person: Sarah Fontenot, Head of IT PMO & Fin Performance of DART	
Phone number: 214-749-2624	Email: sfonteno@dart.org

Period of Performance: January 23, 2022, to September 27, 2023

Brief Description of Work: Tryfacta collaborated with Dallas Area Rapid Transit (DART) to enhance efficiency and service delivery through AI-driven solutions. We conducted comprehensive assessments of workflows to identify use cases such as predictive maintenance and customer service chatbots, aligning them with DART's strategic goals. Our feasibility studies evaluated compliance requirements, data infrastructure, and deployment readiness, prioritizing impactful and scalable solutions. Tryfacta designed predictive analytics models that improved project completion rates by 25% and created a detailed roadmap encompassing governance, milestones, and cost analysis. Pilot programs tested AI solutions in real-world scenarios, with ongoing integration support ensuring seamless scalability. We also conducted tailored training sessions and developed a knowledge transfer plan, empowering DART to maintain and scale AI solutions independently while fostering a culture of innovation.

3.3 REFERENCE 3

Organization Name: Department of Management Services, State of Florida

Contact person: Frank Miller, Senior Contract Manager

Phone number: (850) 488-8855

Email: Frank.Miller@dms.fl.gov

Period of Performance: October 11, 2023 to September 30, 2025

Brief Description of Work: Tryfacta provided comprehensive AI consultancy support to the Department of Management Services, State of Florida. We identified AI opportunities by assessing operational workflows, pinpointing areas for AI integration to enhance efficiency and service delivery. We partnered with various departments to develop an AI strategy, focusing on improving response times and optimizing procurement processes. Through workshops and interviews, we gathered insights to tailor AI solutions aligned with departmental objectives. We conducted a feasibility study to identify AI use cases, such as AI-driven document processing and predictive analytics for resource management. We ensured compliance with external regulations and internal policies, providing a detailed analysis of pros, cons, and risks for each use case. Designed AI models and created an implementation roadmap with governance structures, timelines, and resource requirements. During pilot testing, we worked closely with stakeholders to evaluate functionality and refine solutions based on feedback. We provided ongoing support for system integration and conducted training sessions to build internal capabilities. Our knowledge transfer plan enabled DMS to maintain and update its AI systems independently after our engagement concluded.

3.4 REFERENCE 4

Organization Name: Crimson Solutions Inc

Contact person: A.Ghosh

Phone number: 646-893-6110

Email: aghosh@crimsonsol.com

Period of Performance: August 2023 to July 2025

Brief Description of Work: Our scope of work with Crimson Solutions involved enhancing operational efficiency, decision-making, and service delivery for various governmental organizations. We collaborated to identify AI use cases, conducted needs assessments, and developed a long-term AI strategy aligned with their vision. We identified applications like chatbots and predictive analytics, documented compliance requirements, assessed data readiness, and prioritized use cases for maximum impact. Our team designed custom AI models, researched compliance standards, and created a detailed implementation roadmap with governance structures and KPIs. We supported pilot implementations, refined solutions based on feedback, and ensured successful scaling and integration. We also conducted staff training, facilitated workshops to build internal AI expertise, and developed a knowledge transfer plan for independent system maintenance.

4. PROJECT-RELATED EXPERIENCE AND QUALIFICATIONS

4.1 DEMONSTRATED EXPERTISE AND EXPERIENCE IN PROVIDING AI CONSULTANCY SERVICES, PARTICULARLY IN THE CONTEXT OF LOCAL GOVERNMENT OR SIMILAR PUBLIC SECTOR ENTITIES.

Tryfacta's extensive expertise in providing AI consultancy services is highly relevant to local government and public sector entities, where the demand for innovative solutions to enhance operational efficiency and improve service delivery is critical. Our team of professionals combines cutting-edge technologies with practical applications aimed at improving health outcomes, enhancing educational experiences, and providing robust governance frameworks. Through our innovative use of **AI chatbots**, **next-generation systems**, **generative AI solutions**, **NLP applications**, and **consultancy services**, Tryfacta is well-positioned to drive significant advancements in the healthcare, IT, and education sectors and beyond. Over the years, we have partnered with a variety of governmental organizations, leveraging our deep knowledge of artificial intelligence to address the distinct challenges faced by these entities. Each public sector entity we collaborate with presents unique challenges, which is why we prioritize a tailored approach in our consultancy services. This customization allows us to address specific issues while ensuring compliance with regulatory requirements effectively.

Our Proven AI Solutions

Gen AI Avatar-Based Companion Bot: Enhancing Mental Health Support

Our team has developed a Generative AI Avatar-Based Companion Bot to provide personalized mental health support for 1 million daily users. This AI-driven solution offers compassionate virtual companionship to individuals facing challenges like addiction and loneliness, enhancing well-being through empathetic emotional support and guidance. It addresses the growing demand for mental health assistance, providing accessible and non-judgmental support.



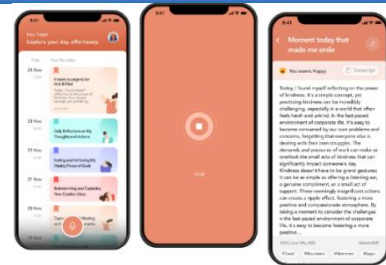
It addresses the growing demand for mental health assistance, providing accessible and non-judgmental support.

- ✓ **Personalized Mental Health Support:** The bot delivers tailored interactions, offering companionship to those lacking a support network.
- ✓ **Targeted Assistance for Addiction:** This program is designed for individuals battling addiction. It provides advice, motivation, and companionship to encourage recovery.
- ✓ **Daily Task Assistance:** In addition to emotional support, the bot helps users with daily tasks, creating a structured environment for rehabilitation.
- ✓ **AI-Driven Medication Recommendations:** Through advanced AI algorithms, the bot can recommend medications (under supervision), helping users stay on track with their recovery plans.
- ✓ **Health Support:** This technology represents the next step in integrating AI with mental health care, offering scalable, accessible support for vulnerable populations.

Mumble Journal – AI-Powered Personal Confidant

We have developed Mumble Journal, a unique AI-powered chatbot for 91 Mobile. Mumble AI is not just a typical journaling app; it acts as a personal confidant, offering users a seamless way to capture their thoughts and reflections. Key Features include:

- ✓ **Voice Recognition:** Mumble AI leverages advanced voice recognition technology to transcribe spoken words into well-structured written entries, making journaling effortless.
- ✓ **Mood Detection:** With mood detection capabilities, Mumble AI understands the user's emotional state, enabling it to provide personalized responses and reflections.



- ✓ **Natural Conversation:** Users can engage with Mumble AI as if conversing with themselves, ensuring that journaling feels intuitive and reflective.

AI Scribe Solution

Our team have developed a state-of-the-art **AI Scribe Solution** built to capture, transcribe, and organize conversations between healthcare providers and patients. This system utilizes advanced **natural language processing (NLP)** and **machine learning (ML)** algorithms to deliver real-time clinical documentation accurately and quickly. Key features of our AI Scribe Solution include:

- ✓ **Ambient Listening Technology:** Our AI continuously listens and transcribes key patient-provider conversations without requiring direct interaction, allowing focused patient care.
- ✓ **Seamless Epic EHR Integration:** The AI scribe integrates with **Epic's "Write My Note"** feature, ensuring seamless data flow and easy access to clinical notes. This results in fewer documentation errors and time saved on manual data entry.
- ✓ **Multi-Language Support:** The solution supports English-Spanish conversations and other languages, providing robust transcription capabilities for multilingual environments.
- ✓ **High Accuracy & Contextual Understanding:** Our AI uses sophisticated algorithms to interpret and accurately transcribe complex medical terminology, ensuring that notes are clear and actionable.

Public Sector Experience

Our focus on aligning AI strategies with organizational goals has enabled us to consistently deliver impactful results that foster innovation, streamline operations, and improve service delivery. Our portfolio includes numerous successful AI implementations across local and state government agencies, including **Miami-Dade County**, **Dallas Area Rapid Transit (DART)**, **the State of Florida**, and others. These projects demonstrate our ability to deploy AI solutions that are both impactful and aligned with the needs of the public sector.

Our work with **Miami-Dade County's** Department of Regulatory and Economic Resources involved deploying AI-driven automation tools that significantly reduced regulatory processing times by 30%, improving service delivery and compliance monitoring. In collaboration with **DART**, we developed predictive maintenance models for transit infrastructure that improved service reliability and reduced downtime, resulting in significant cost savings. Additionally, for the **State of Florida's Department of Management Services**, we implemented AI solutions that streamlined procurement processes, improved vendor management, and enhanced resource allocation, enabling state agencies to operate more efficiently while ensuring regulatory compliance. Our expertise in providing AI consultancy services encompasses a comprehensive approach to enhancing operational efficiency and innovation within governmental organizations.

We excel in identifying AI opportunities tailored to municipalities, counties, and school districts, improving decision-making and service delivery. Our AI experts automate routine tasks, freeing up resources and enhancing service capabilities. By streamlining processes, we help reduce operational costs and improve efficiency. We develop customized AI strategies, leveraging technology and public sector expertise to create practical solutions. We provide robust implementation support and training for seamless AI integration. We offer advanced data analytics tools for real-time insights, enabling agencies to analyze trends, monitor compliance, optimize resource allocation, and enhance decision-making. We prioritize comprehensive training programs to boost government employees' proficiency with AI tools, leading to sustainable AI adoption and improved operational effectiveness. With extensive experience and a commitment to tailored AI solutions, Tryfacta helped local government agencies innovate and improve operations, ensuring long-term value, enhanced efficiency, and better service outcomes.

4.2 COMPREHENSIVE OVERVIEW OF OUR ORGANIZATION'S CAPABILITIES IN AI TECHNOLOGIES

4.2.1 Overview of our Capabilities in AI Technologies

Tryfacta offers extensive expertise in Artificial Intelligence (AI), with capabilities spanning Machine Learning (ML), Natural Language Processing (NLP), robotics, computer vision, Fuzzy Logic and advanced analytics and more. Our tailored solutions address unique client challenges, driving operational efficiency,

innovation, and improved decision-making. By leveraging technologies such as deep learning, AI-driven automation, and big data analytics, we enable organizations to streamline workflows, enhance customer engagement, and uncover actionable insights.

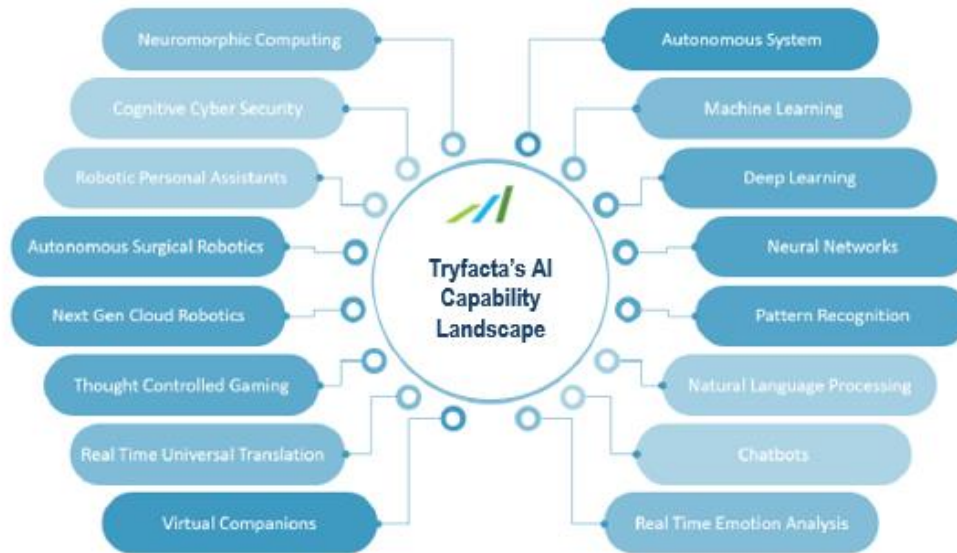


Figure 1: Tryfacta's AI Capabilities Landscape

Tryfacta's key offerings in AI Services involve:

AI Strategy Development: Our AI Strategy Development capability is designed to empower organizations to harness artificial intelligence's transformative potential. We craft tailored strategies that align AI adoption with your business objectives, ensuring sustainable growth and innovation. This involves:

- ✓ **Strategic Visioning:** Collaborating with stakeholders to define a clear AI vision and identify areas where AI can drive the most value.
- ✓ **Assessment and Gap Analysis:** Evaluating existing systems, processes, and data readiness to determine the feasibility and maturity of AI adoption.
- ✓ **Goal Setting and KPI Alignment:** Establishing measurable objectives and performance indicators to track the success of AI initiatives.
- ✓ **Implementation Roadmap:** Outlining phased deployment strategies, resource requirements, and timelines to ensure seamless integration.
- ✓ **Ethical AI Frameworks:** Incorporating principles of transparency, fairness, and compliance to build trustworthy AI systems.

Feasibility Study and Use Case Identification: Tryfacta specializes in conducting comprehensive feasibility studies to evaluate opportunities for AI integration. Our approach includes a thorough analysis of current processes, challenges, and potential AI-driven solutions, enabling us to identify impactful and feasible use cases. By prioritizing these use cases in collaboration with stakeholders, we ensure our AI implementations are strategically aligned with organizational goals and deliver measurable value.

AI Solution Design and Roadmap: Our team excels in designing tailored AI solutions and comprehensive roadmaps. We define the technical architecture, data requirements, and algorithms necessary for effective implementation, ensuring scalability, security, and compliance. Our roadmaps are milestone-driven, providing clear timelines and actionable steps to guide development and ensure alignment with long-term objectives.

Pilot Testing and Implementation Support: We offer end-to-end support for AI implementation, starting with rigorous pilot testing to validate solutions in real-world scenarios. This enables us to refine AI systems for optimal performance before full-scale deployment. Our implementation support includes seamless

system integration, change management, and user training, ensuring a smooth transition to production and maximizing operational impact.

AI-Driven Automation: We automate complex and repetitive tasks using ML and NLP, allowing organizations to enhance productivity while reallocating resources to strategic initiatives.

AI Talent and Workforce programs: These are designed to provide customized training that empowers employees with the knowledge and skills needed to harness AI tools effectively. We offer a range of training options, from basic AI literacy to advanced machine learning concepts, ensuring employees at all levels are prepared for the AI-driven future. By focusing on workforce readiness, we help organizations develop a culture of innovation where employees are not just users of AI tools but active contributors to AI-driven transformation. This proactive approach ensures that businesses are well-positioned to leverage AI technologies for long-term success.

Generative AI Solutions: Tryfacta's Generative AI Navigator ensures responsible development and deployment of generative AI solutions for prototyping, cost optimization, and prompt engineering.

Advanced Analytics: Predictive analytics solutions help organizations anticipate future trends and make data-driven decisions, optimizing operations and improving market responsiveness.

Intelligent Chatbots: Our chatbot solutions leverage NLP to provide personalized, real-time customer interactions, improving engagement and operational efficiency.

Responsible AI Governance: We support organizations in deploying ethical AI that is aligned with regulatory standards through frameworks emphasizing transparency, fairness, and accountability.

AI in Hybrid Environments: By enabling AI-enabled workloads in hybrid cloud setups, we help organizations combine flexibility with performance, reducing costs and increasing scalability.

4.2.2 Industry and Public Sector Experience and Implementation

With decades of experience across industries such as healthcare, finance, and transportation, Tryfacta has delivered transformative AI solutions that enhance efficiency and service delivery. Our public sector implementations include AI-driven tools for *Miami-Dade County*, *Dallas Area Rapid Transit (DART)*, *Florida's Department of Management Services*, *Crimson Solutions Inc.*, and more. These projects feature intelligent chatbots, predictive analytics, and virtual assistants that improve citizen engagement and optimize resource allocation. From data modernization and AI-driven automation to digital transformation and trusted AI frameworks, Tryfacta is committed to delivering solutions that not only meet but exceed our clients' expectations. By harnessing the power of AI and data, we help organizations unlock opportunities that lead to innovation, improved efficiency, and sustained growth in a rapidly evolving market.

Table 1: Tryfacta's AI Implementation Portfolio

Accelerating Regulatory Processes for Miami-Dade County	We partnered with Miami-Dade County to develop a predictive analytics solution for public health management. Using machine learning algorithms, we identified patterns in health data to predict potential outbreaks and optimize resource allocation. This initiative enabled the county to respond proactively to public health risks, enhancing community health outcomes and maximizing the use of public health resources.
Predictive Maintenance for Enhanced Reliability for Dallas Area Rapid Transit (DART)	Our work with DART focused on utilizing AI to improve transit operations. By implementing machine learning algorithms to predict ridership trends and optimize bus and train schedules, we helped DART enhance the efficiency of its transportation services. This AI-driven approach reduced operational costs, improved scheduling, and increased overall ridership satisfaction.
Optimizing Procurement Processes, State of Florida	In collaboration with the State of Florida, we developed an AI-powered fraud detection system for public assistance programs. This system utilizes NLP and anomaly detection techniques to flag suspicious activities, significantly reducing the time and resources required for manual investigations.
Crimson Solutions Inc	For Crimson Solutions, Tryfacta leveraged AI-driven tools for data validation, regulatory oversight, and designee management. These tools enhanced

	operational efficiency and safety by automating complex processes and ensuring compliance with regulatory standards. By integrating machine learning models for real-time data analysis, Crimson Solutions was able to optimize decision-making and improve service delivery, contributing to better outcomes for their clients and partners.
Generative Artificial Intelligence Research Tool for the City of Lakewood	Tryfacta delivered a cutting-edge Generative AI Research Tool to the City of Lakewood, designed to enhance efficiency, compliance, and decision-making in the project permit review process. Our solution, based on a scalable, cloud-native architecture and advanced NLP, enables city staff to input plain-language queries and receive accurate, contextually relevant results from complex legal and regulatory codes.
Artificial Intelligence Tool for Indian Affairs	Tryfacta proposed developing a cloud-based AI tool to enhance its acquisition processes during the pre-solicitation phase. This scalable solution is designed to manage an increase from 2,600 to over 20,000 actions annually, utilizing advanced AI and machine learning technologies to streamline the generation of Statements of Work (SOWs) and Independent Government Estimates (IGEs). The architecture features modular microservices, employing frameworks such as Python with TensorFlow or PyTorch for backend development and React.js for a responsive frontend interface.
Artificial Intelligence Scribe Solution for Costa County	Tryfacta proposed an advanced AI Scribe Solution to streamline clinical documentation by capturing and transcribing provider-patient conversations in real-time. Using NLP and ML algorithms, the system accurately transcribes and organizes conversations, integrating with Epic's "Write My Note" feature for direct entry into Electronic Health Records. The solution supports multilingual transcription, including English and Spanish, and operates effectively in complex clinical settings, ensuring high accuracy in capturing medical terminology and relevant clinical details.
Artificial Intelligence Tools for K-12 Education for CSDE	Tryfacta developed an advanced AI-driven solution for the CSDE to support educators and students in Grades 7-12. This platform offers generative AI tools for creating educational content like lesson plans and grading rubrics, along with an AI tutor for real-time feedback and progress monitoring.
AI Solution for HCL Technologies	At HCL Technologies, we delivered comprehensive AI solutions by developing five-year AI roadmaps, defining use cases, and implementing tailored frameworks. We ensured compliance with legal, ethical, and data privacy standards while empowering internal teams through hands-on training and knowledge transfer.
AI Implementation for Nexcent Capital	Tryfacta successfully supported Nexcent Capital in the integration of AI into its fund management processes by providing expertise across multiple functional areas. Our Business Analysts conducted comprehensive process re-engineering, identifying inefficiencies and optimizing workflows to improve operational efficiency while ensuring regulatory compliance.

4.3 HIGHLIGHT YOUR UNDERSTANDING OF PUBLIC SECTOR COMPLIANCE, ETHICAL STANDARDS, AND REGULATIONS RELATED TO AI.

Tryfacta's consultancy services leverage deep expertise in public sector compliance, ethical standards, and AI regulations. We navigate challenges in AI development, including ethics, data privacy, and regulation, ensuring successful implementation. By prioritizing fairness, transparency, and stakeholder engagement, we address biases, protect sensitive information, and comply with guidelines. This commitment fosters trust and accountability, unlocking AI's full potential while meeting regulatory requirements.

Public Sector Compliance

We understand that public sector organizations operate under a strict regulatory framework that governs data usage, privacy, and accountability. Key regulations include:

- ✓ **Data Protection Laws:** Compliance with laws such as the General Data Protection Regulation (GDPR) and the Health Insurance Portability and Accountability Act (HIPAA) is essential. These regulations dictate how personal data must be handled, ensuring that AI systems respect citizen privacy and data rights.
- ✓ **Public Records Laws:** AI implementations must align with public records laws, which require transparency in government operations. This includes ensuring that AI-generated data and decisions can be audited and accessed by the public.

Ethical Standards and Regulation

Ethical considerations in AI are paramount, particularly in the public sector where decisions can significantly impact citizens' lives. Our approach includes:

- ✓ **Transparency:** We prioritize transparency in AI algorithms and decision-making processes. This involves providing clear explanations of how AI systems operate and the rationale behind their outputs.
- ✓ **Fairness:** We actively work to mitigate biases in AI systems to ensure equitable treatment of all individuals including regular audits of AI models to detect and correct any discriminatory patterns.

Implementation of Ethical AI

Our organization follows a structured framework for implementing ethical AI, which includes:

- ✓ **Stakeholder Engagement:** Engaging with community stakeholders to understand their concerns and expectations regarding AI applications.
- ✓ **Impact Assessments:** Conducting thorough assessments to evaluate the potential social impacts of AI initiatives before deployment.
- ✓ **Training and Awareness:** We provide training programs for our team and public sector clients on ethical AI practices. This includes understanding compliance requirements, recognizing potential biases, and promoting responsible data usage.

4.4 INCLUDE A PORTFOLIO OF SUCCESSFUL AI STRATEGIES OR IMPLEMENTATIONS, ESPECIALLY THOSE THAT ALIGN WITH THE UNIQUE NEEDS OF LOCAL GOVERNMENT.

Our portfolio of successful AI strategies and implementations includes several projects that specifically address the unique needs of local government agencies. These implementations showcase our ability to deliver AI solutions that drive efficiency, enhance services, and improve decision-making for public sector clients. More details in [Table 1](#), section 4.2.2 above.

4.5 INCLUDE A BRIEF STATEMENT OF THE RESPONDENT'S BACKGROUND.

As an **SBA-certified 8(a)** and **Women-Owned Small Business (WOSB)** with **28 years of experience**



delivering cutting-edge solutions specifically in the field of Software, Cloud, and emerging technologies such as AI, Tryfacta is well-equipped to support participating entities in developing the AI-driven Solutions. Tryfacta Inc. has been operational for decades, establishing a solid reputation for delivering high-quality AI consultancy services. Tryfacta proudly holds **CMMI Level 3** accreditation, ISO 9001:2015 certification for Quality Management Systems, ISO 27001:2022 accreditation for Information Security Management Systems, and ISO 20000-1:2018

certification for Information Technology Service Management Systems showcasing our commitment to excellence in Quality, Cloud Solutions, and Software Services.

We are currently supporting over **200 government entities** across different industry verticals. Our expertise and proven capabilities span Information Technologies such as *Artificial Intelligence (AI), Machine Learning, Big Data, Blockchain, the Internet of Things (IoT), Software/Application Development, Cybersecurity, Telecommunications Infrastructure, Cloud, and Automation*. For over 28 years, Tryfacta has been catering to the IT needs of Commercial and Government Agencies across **50 US States**. Our team is well-versed in various domains of AI, including *machine learning, natural language processing,*

computer vision, robotics, and expert systems. We leverage these technologies to create tailored solutions that meet the specific needs of our clients.

At Tryfacta., we are proud to partner with leading technology providers such as **AWS, Microsoft, Oracle, IBM, and other key industry leaders** to offer a wide range of service and deployment models, including SaaS, IaaS, PaaS, and hybrid cloud solutions. These strategic alliances allow us to integrate cutting-edge cloud technologies, *AI-driven innovations*, and scalable cloud solutions to meet the unique needs of Participating Entities. By leveraging best-in-class tools and platforms from these industry pioneers, as well as open-source technologies, we deliver customizable and secure solutions that effectively address data storage and security across Low, Moderate, and High-risk categories.



Tryfacta is a trusted provider of AI consultancy services and custom software solutions, combining extensive technical expertise with a deep understanding of industry-specific challenges. Our team excels in crafting innovative, scalable, and secure solutions designed to address the unique needs of diverse industries. We are well-positioned to provide comprehensive AI consultancy services that meet the needs of NCTCOG and its member entities. We are committed to delivering innovative solutions while adhering to regulatory requirements and ethical standards.

We have over **20 years** of experience in implementing AI solutions, including machine learning, natural language processing, computer vision, robotics, and expert systems. We maintain industry-recognized standards, including **ISO/IEC 27001** for information security management, NIST Cybersecurity Framework, and established best practices for responsible AI development. **Our approach is grounded in the following core elements:**

AI-First Approach	By utilizing the AI-first approach , we strategically prioritize AI to enhance and lead AI consultancy operations. This approach redesigns support processes to integrate AI at their core for increasing operational efficiency, scalability, and innovation.
Customized Strategic Development	Tryfacta employs an adaptive methodology that enables iterative development and continuous improvement through regular stakeholder feedback. This ensures our AI strategies & implementations evolve based on real-time input from participating entities, allowing us to meet organizational objectives.
Advanced AI Technologies and Solutions	Our services leverage state-of-the-art AI technologies tailored to each organization's needs. From custom model development to infrastructure recommendations, we ensure solutions that enhance operational efficiency while maintaining high accuracy and reliability.
Data Integrity and Compliance Framework	We prioritize compliance with all relevant federal, state/provincial, and local regulations across the US. Our approach implements robust risk management frameworks to ensure data security, proper governance, and transparent AI operations, supporting participating entities' accountability requirements.
Scalable Implementation Architecture	To meet diverse organizational needs, we develop flexible, scalable AI solutions that integrate seamlessly with existing systems. Our implementation strategies ensure solutions are accessible, and cost-effective.
Comprehensive Security Protocols	Following industry-leading security frameworks and standards, our approach emphasizes robust risk management, continuous monitoring, and strong data protection.
Responsible AI and Training	We prioritize responsible AI development and implementation, ensuring all solutions are explainable and ethically sound. Our comprehensive training and education programs enable participating entities to fully understand and effectively utilize their AI solutions, ensuring long-term success and sustainability.

By applying the above best practices, industry standards, and AI innovation, Tryfacta is positioned to deliver comprehensive AI Consultancy Services that enhance operational efficiency for NCTCOG while

ensuring compliance with all relevant standards and requirements. Our successful partnerships with entities such as Miami-Dade County, DART, and the State of Florida further demonstrate our capability to deliver impactful AI solutions.

4.6 CLEARLY STATE ANY SIGNIFICANT REQUIREMENTS FROM THE SCOPE OF WORK THAT YOU ARE UNABLE TO MEET.

We are confident in meeting all project requirements. Our extensive experience in AI implementation, regulatory compliance, and process automation ensures desired outcomes. We provide end-to-end support, from AI strategy development to implementation and continuous optimization, ready to deliver exceptional value to the NCTCOG team.

4.7 IF APPLICABLE, IDENTIFY ANY SUBCONTRACTORS OR THIRD-PARTY SERVICES

We are not using subcontractors or third-party services for this RFP. However, we have strong local partners who support our initiatives with their expertise and resources. Our partners are selected for their proven track record and ability to meet our standards, allowing us to maintain oversight and quality control while leveraging their strengths.

4.8 PROVIDE A GENERAL EXPLANATION AND CHART WHICH SPECIFIES PROJECT LEADERSHIP AND REPORTING RESPONSIBILITIES, AND HOW THE TEAM WILL INTERFACE WITH NCTCOG

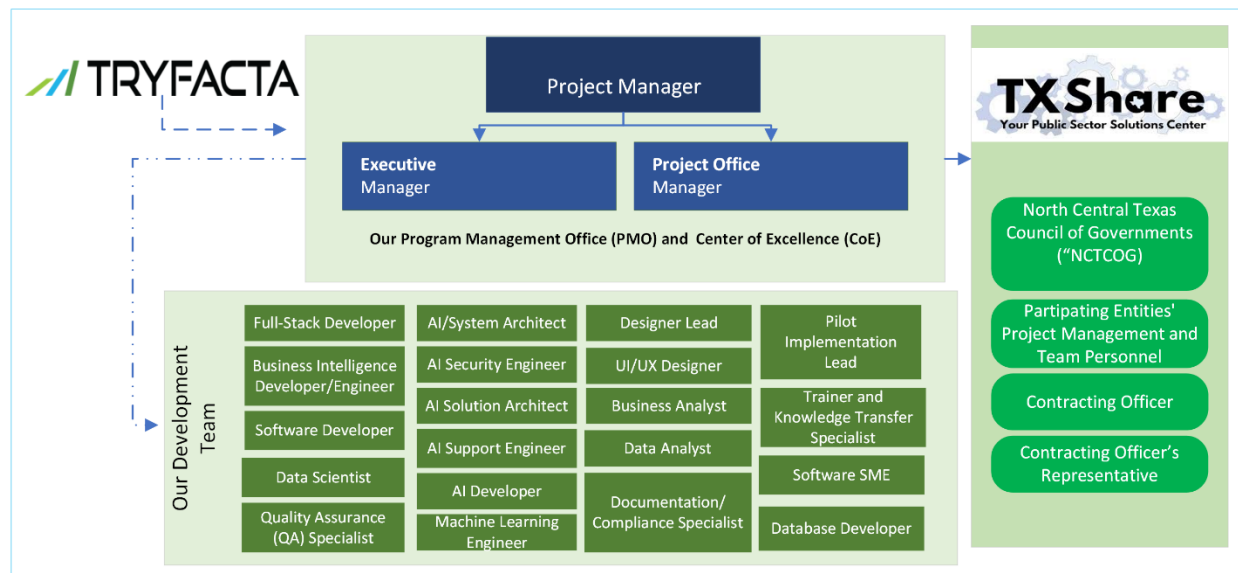


Figure 2:Tryfacta's Proposed Project Team

Tryfacta's proposed organizational structure will ensure seamless collaboration, clear reporting lines, and efficient execution. Led by **Sharon Griffin, the Project Manager**, the Program Management Office (PMO) and Center of Excellence (CoE) oversee the Executive Manager, Project Office Manager, and specialized teams. These teams collaborate closely with the NCTCOG, participating entities, the Contracting Officer, and the Contracting Officer's Representative. Our proposed project team involves Full-Stack Developers, AI/System Architects, Machine Learning Engineers, and Data Scientists for technology innovation; UI/UX Designers and Design Leads for user experience; and Business Analysts, Data Analysts, and Compliance Specialists for operational accuracy. The Pilot Implementation Lead and Knowledge Transfer Specialist ensure smooth implementation and transition, supported by domain-specific SMEs and Database Developers. This structure promotes accountability, efficiency, and alignment with stakeholder objectives.

5. TECHNICAL PROPOSAL

Tryfacta recognizes the NCTCOG's vision of leveraging AI to transform operational efficiency, optimize processes, and ensure long-term strategic alignment. To meet these objectives, we will employ the "AI-

First Approach—a comprehensive, phased methodology designed to assess current organizational readiness, recommend AI solutions, and deliver sustainable, scalable, and compliant AI systems while empowering internal teams for long-term adoption.

By prioritizing high-quality data, we ensure data integrity and relevance, supporting effective algorithms. We develop sophisticated algorithms to enhance data analysis, leading to improved predictions and automated processes. We translate AI capabilities into tangible business outcomes, optimizing operations and enhancing customer experiences. Our approach fosters continuous learning through **agile methodologies**, allowing quick adaptations based on feedback and market changes. We empower internal teams with training and resources for **long-term AI adoption**. Additionally, we create detailed roadmaps with timelines, milestones, and resource allocation for AI initiatives aligned with organizational goals. This balanced strategy enhances human capabilities alongside AI, positioning NCTCOG for operational efficiency, optimized processes, and sustainable growth.

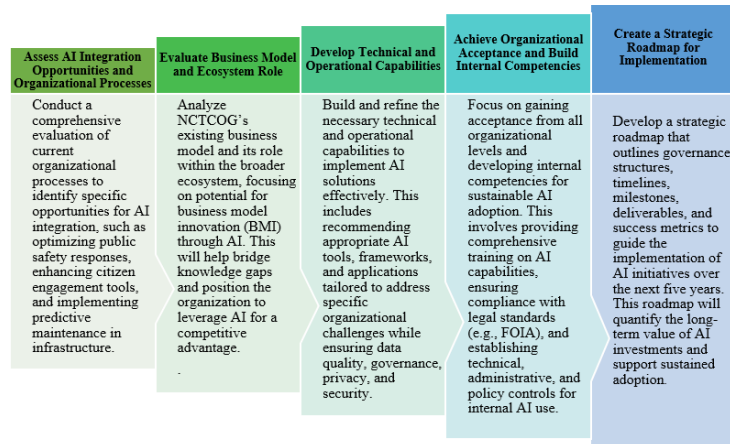


Figure 3:Tryfacta's Overall Technical Approach

5.1 OBJECTIVES:

Our approach is structured around the following key phases to align with NCTCOG's objectives

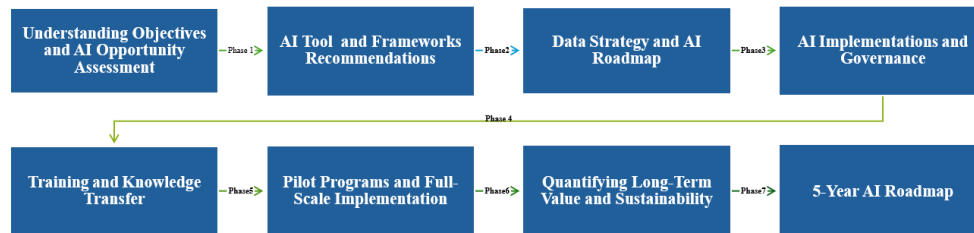


Figure 4: Approach to Accomplish NCTCOG Objectives

Phase 1: Understanding Objectives and AI Opportunity Assessment

Step 1: Stakeholder Engagement and Needs Analysis

Our methodology will begin with engaging NCTCOG's stakeholders through a series of structured workshops, interviews, and surveys to understand organizational processes and department-specific goals fully. This will involve

- **Public Safety:** Identifying how AI can optimize response times, enhance resource allocation, and improve predictive crime analytics.
- **Citizen Engagement:** Exploring AI-driven chatbots for 24/7 personalized resident interaction and tools for inclusive citizen outreach.
- **Infrastructure Maintenance:** Assessing opportunities for predictive maintenance using AI to analyze sensor data and reduce costly failures.

Step 2: AI Suitability Mapping Using the AI-First Framework

We will conduct a comprehensive analysis of NCTCOG's current workflows and systems using our AI Maturity Model, which evaluates:

- Feasibility of AI integration (technical and resource constraints).
- Potential business impact, ranked by operational, financial, and citizen service benefits.
- AI readiness across key organizational units.

Phase 2: AI Tool and Frameworks Recommendations

To effectively recommend scalable AI tools and frameworks aligned with organizational objectives, we conduct a thorough evaluation of the existing technology infrastructure to identify gaps and opportunities.

- ✓ This includes recommending development tools like **TensorFlow**, **PyTorch**, or **scikit-learn** for model building and cloud platforms such as **AWS SageMaker**, **Google Cloud AI**, or **Azure AI** for scalable deployment.
- ✓ We will adopt an **Agile framework** to prioritize implementation iteratively, ensuring flexibility and responsiveness to feedback.
- ✓ We will perform industry-standard evaluations to assess the compatibility of these tools with current systems and analyze their return on investment (ROI), enabling organizations to leverage AI effectively while enhancing operational efficiency and driving sustainable growth.

Phase 3: Data Strategy and AI Roadmap

Step 1: Comprehensive Data Strategy Development: Data is the foundation of AI, and we will establish a robust data strategy focused on quality, governance, privacy, and security:

- **Data Quality:** Our team of data analysts will conduct audits to identify gaps and inconsistencies in current datasets and implement data cleaning and enrichment processes to enhance dataset quality.
- **Data Governance:** We will define policies for data usage, ownership, and access controls. We will also establish a data stewardship framework to ensure accountability and regular policy reviews.
- **Compliance:** Our team will ensure adherence to federal, state, and local regulations (e.g., FOIA, GDPR, HIPAA). We will conduct regular compliance audits to adapt to evolving legal requirements.

Step 2: Strategic AI Roadmap Development: We will create an AI roadmap with detailed timelines, milestones, and deliverables that align with NCTCOG's strategic priorities. This involves

- **Integration Plans:** Developing strategies for integrating AI solutions with existing legacy systems.
- **Resource Allocation:** Identifying necessary resources, including personnel, technology, and budget for AI implementation.
- **Training Timelines:** Establishing training programs to equip staff with skills in AI technologies and methodologies.
- **Success Metrics and KPIs:** Defining metrics and KPIs to measure AI adoption progress (e.g., model accuracy, operational efficiency).

Phase 4: AI Implementations and Governance

Step 1: Agile Execution of AI Initiatives: We will execute the roadmap using **Agile methodologies**, incorporating:

- **Sprint Planning and Execution:** Defining sprint goals, conducting daily stand-ups, and iterative testing.
- **Proofs of Concept (PoC):** Developing prototypes to validate AI solutions before full-scale deployment.

Step 2: Scaled Deployment and Change Management: We will implement AI solutions incrementally, ensuring:

- Seamless integration with existing systems.
- Adoption through structured change management processes and ongoing user engagement.

Step 3: Establishment of Governance Framework: Our governance approach will define roles and responsibilities for overseeing AI initiatives, including:

- Policies for explainability and ethical AI use.
- Administrative and technical controls to ensure secure and transparent AI operations.

Step 4: Regulatory Compliance Integration: We will conduct a compliance audit to ensure all AI systems align with FOIA, grant, state, and federal regulations. This includes:

- Adherence to transparency and accountability standards.
- Policies for data privacy, bias mitigation, and algorithmic explainability.

Phase 5: Training and Knowledge Transfer

Step 1: AI Training and Workforce Enablement: We will collaborate with NCTCOG stakeholders to develop a customized structured training program that includes but not limited to:

- **AI Awareness:** Foundational knowledge for leadership and stakeholders.
- **Tool Proficiency:** Hands-on training for IT and department-specific teams on tools like Azure AI or AWS SageMaker.
- **AI Operations:** Maintenance and monitoring best practices for long-term sustainability.

Step 2: Knowledge Transfer Plan

- We will ensure seamless knowledge transfer through:
 - Comprehensive documentation and user guides.
 - Shadowing opportunities with consultants to build internal expertise.
 - Role-specific training modules and documentation.
 - Post-training assessments to validate staff readiness.

Phase 6: Pilot Programs and Full-Scale Implementation

Step 1: Pilot Execution and Feedback Loops: We will pilot AI solutions for prioritized use cases, ensuring iterative improvements through stakeholder feedback.

Step 2: Full-Scale Deployment and Support: We will transition successful pilots into full-scale implementations, supported by:

- Comprehensive monitoring and performance optimization.
- Fully operational AI systems integrated into NCTCOG's workflows.
- Monitoring dashboards for ongoing performance tracking.

Phase 7: Quantifying Long-Term Value and Sustainability

Step 1: Business Case Development: We will quantify the value AI brings to NCTCOG by demonstrating:

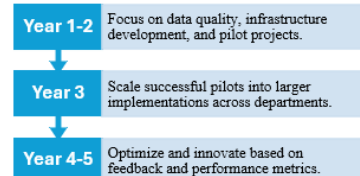
- Cost savings and efficiency improvements.
- Enhanced citizen satisfaction and service quality.

Step 2: AI-Driven Performance Monitoring:

- Using tools like Tableau and Grafana, we will implement dashboards for continuous performance monitoring, helping identify trends, resolve bottlenecks, and measure ROI.

Phase 8: 5-Year AI Roadmap

- Establish clear, measurable goals for AI initiatives that align with NCTCOG's strategic priorities.
- Evaluate our current AI adoption level using a five-stage maturity model to identify necessary steps for advancement.
- Develop Implementation Phases
- Involve internal teams, community representatives, and external partners in the roadmap development process to ensure alignment with community needs.



5.2 SCOPE OF WORK

5.2.1 AI Strategy Development

Tryfacta leverages its expertise in developing AI strategies to guide organizations in integrating artificial intelligence into their operations to meet their strategic business goals through comprehensive planning and application. Our consultants assess AI readiness, set clear objectives, identify suitable applications, and create strategic implementation plans. We help establish infrastructure, suggest team composition, conduct architecture reviews, manage risks, and ensure AI solutions are ethical and socially responsible..

a. Collaborate closely with individual departments to identify specific AI use cases

We will collaborate with individual departments using a structured methodology to identify AI use cases, challenges, and opportunities. This is achieved through:

Stakeholder Engagement: Using the *Design Thinking methodology*, we will facilitate a human-centered approach to identifying AI use cases:

- ✓ **Empathy Mapping:** We will conduct workshops to understand the needs, goals, and frustrations of each department, focusing on areas where AI can enhance efficiency or decision-making.
- ✓ **Targeted Interviews:** We will leverage the Five Whys technique during interviews with department leaders to uncover root challenges and opportunities where AI can drive value.
- ✓ **Comprehensive Surveys:** Using the Delphi Method, we will gather consensus among diverse stakeholders, ensuring the identification of AI use cases that reflect shared priorities.

Data Analysis: We will apply *MoSCoW Prioritization* and *Cost-Benefit Analysis* to rank use cases based on impact, feasibility, and ROI.

High-Impact Use Cases:

- ✓ **Public Safety:** We will implement *Predictive Analytics* models using historical data to identify high-risk areas and optimize resource deployment for emergency response. Our team will also leverage *NLP* for real-time transcription and analysis of emergency calls to improve situational awareness and response coordination.
- ✓ **Procurement Optimization:** Our team will use *AI-Driven Spend Analysis* to identify cost-saving opportunities and optimize supplier selection processes. Additionally, we will employ ML Algorithms to predict future procurement trends and adjust inventory planning accordingly.

Solution Development: Using the *Agile Methodology*, we will deliver AI solutions through iterative development cycles. This is achieved by

- ✓ Breaking down each AI use case into manageable tasks and prioritizing development based on NCTCOG goals.
- ✓ Developing prototypes through minimum viable products (MVPs) using tools like Python, TensorFlow, or PyTorch for testing AI models.
- ✓ Engaging with end-users throughout development to refine solutions based on their feedback and operational needs.

Cross-Department Collaboration: Following this, we will implement Systems Thinking to design scalable AI solutions and integrate them across departments with tools like MuleSoft. This streamlined approach ensures AI solutions deliver measurable value and align with both departmental and strategic objectives.

b. Conducting an AI Needs Assessment

Tryfacta will conduct a robust needs assessment for AI adoption, involving a multi-dimensional approach to tailor effective, sustainable, and scalable AI solutions. Our AI experts will *identify key operations and processes* where AI can enhance efficiency, decision-making, or customer interaction. We will *evaluate NCTCOG's current technology* to identify gaps or inefficiencies that AI can address. Based on this assessment, we'll *pinpoint areas for AI integration* to streamline workflows, enhance decision-making, or improve customer engagement, prioritizing those with the highest impact on efficiency and strategic objectives. Our AI specialists will *align AI strategies with NCTCOG's business goals* to ensure AI implementations are effective and strategically focused, driving measurable improvements in performance and competitiveness.

c. Develop a long-term AI strategy aligned with the organization's strategic plan and 5-year vision.

We will create a comprehensive AI strategy aligned with the organization's broader goals, ensuring scalability over the next five years.

- **Vision and Objectives:** Define strategic objectives for AI adoption with *SMART Goals* and develop measurable KPIs to track progress, such as improving operational efficiency through AI-driven automation or enhancing decision-making with predictive analytics.
- **Roadmap and Milestones:** Develop a 5-Year AI Roadmap using MoSCoW Prioritization to rank initiatives by importance and feasibility. Outline key milestones with clear timelines and resource

requirements. Use the **Scaled Agile Framework** (SAFe) for phased delivery of AI capabilities, incorporating early wins through pilot projects in high-impact areas.

- **Governance and Ethics:** Establish robust governance structures using frameworks like ISO 38505-1 for IT governance, ensuring transparency, accountability, and compliance with ethical and legal standards. Integrate Hoshin Kanri to align AI initiatives with the organization's strategic vision, ensuring they contribute directly to mission-critical goals. Maintain ethical standards, including fairness, bias mitigation, and explainability, throughout the AI implementation process.

5.2.2 Feasibility Study and Use Case Identification

We will conduct a comprehensive Feasibility Study and Use Case Identification for NCTCOG to explore the integration of AI across its operations. This study will focus on identifying potential AI use cases, analyzing their feasibility, and assessing their value while ensuring compliance with relevant regulations.

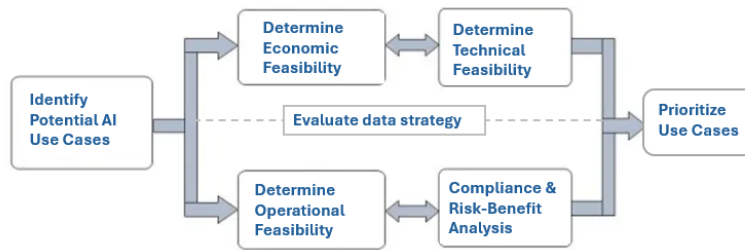


Figure 5: Approach to Feasibility Study and Use Case Identification

a. Identify Potential AI Use Cases

Our team of AI experts will

- Conduct stakeholder workshops and interviews to identify pain points, inefficiencies, and opportunities for AI integration across departments.
- Utilize Design Thinking methodologies to uncover needs and gather input on potential AI solutions.
- Collaborate with subject matter experts (SMEs) to explore various AI techniques for various AI use cases tailored to NCTCOG's operational needs. This will include:
 - *Public Safety Enhancements:* Implementing predictive analytics for crime prevention and emergency response optimization.
 - *Infrastructure Management:* Utilizing AI for predictive maintenance of transportation systems and public facilities.
 - *Citizen Engagement:* Developing AI-driven platforms for improved communication and service delivery to residents.

b. Feasibility Assessment and Value Analysis

For each identified use case, we will conduct a detailed feasibility analysis:

- Technical Feasibility: Assess existing technology infrastructure, data quality, and AI readiness using tools like Technology Readiness Levels (TRL).
- Operational Feasibility: Evaluate workforce readiness and operational constraints with Change Management strategies to ensure smooth AI integration.
- Financial Feasibility: Conduct a Cost-Benefit Analysis to determine expected ROI by comparing AI adoption costs with anticipated value.

c. Compliance and Risk-Benefit Analysis

- ✓ **Compliance Requirements:** Our Compliance Specialists will document external regulations (e.g., GDPR/CCPA, FOIA, state/federal laws) and internal policies for each AI use case, ensuring adherence to data protection laws, privacy standards, and ethical AI principles.
- ✓ **Risk-Benefit Analysis:** For each use case, we will analyze potential pros, cons, and risks, including AI model biases, data security risks, and operational challenges, versus expected benefits like cost savings, improved decision-making, or operational efficiency.

d. Data Strategy Considerations

Our team of AI experts and data analysts will ensure the feasibility study includes a thorough evaluation of data strategy, focusing on:

- ✓ **Data Quality** to assess the availability, accuracy, & completeness of the data required for AI models.
- ✓ **Data Governance** to evaluate existing governance structures and recommend improvements for compliance, data stewardship, and accountability.
- ✓ **Integration Readiness** to review current systems to assess integration readiness, ensuring AI solutions can be seamlessly connected with existing platforms and data sources.

e. Prioritize Use Cases

Tryfacta's team will use frameworks like **MoSCoW Prioritization** and **Pareto Analysis** to prioritize use cases based on:

- **Impact:** The potential positive effects on NCTCOG's operations and service delivery.
- **Ease of Deployment:** The complexity involved in implementing each use case, considering available resources and timelines.

5.2.3 AI Solution Design and Roadmap

We will develop a comprehensive **AI Solution Design and Roadmap** for the NCTCOG that will address both external and internal compliance requirements while outlining a clear path for AI implementation. This roadmap will ensure that all AI solutions are ethical, secure, and aligned with public sector regulations.

a. Compliance Research and Documentation

To ensure the safe and legal implementation of AI solutions, our consultants will conduct in-depth research and analysis of both external and internal compliance requirements.

External Compliance:

Freedom of Information Act (FOIA)	Detail requirements for data access, transparency, and public information dissemination to comply with federal standards.
Grant Compliance	Identify specific grant requirements, including reporting structures, allowable expenditures, and performance tracking.
Local, State, and Federal Regulations	Document regulations such as Texas Data Privacy and Security laws, NIST standards, and other jurisdictional mandates to ensure full compliance.

Internal Compliance:

Technical Controls	Our consultants will develop guidelines for securing AI systems, including implementing role-based access controls , ensuring data encryption at rest & in transit, integrating SDLC practices , deploy logging and monitoring systems .
Administrative Controls	<ul style="list-style-type: none"> • Establish an AI Ethics and Oversight Board. • Develop and enforce SOPs for AI projects. • Define stakeholder responsibilities. • Require periodic compliance training.
Policy Controls	Craft policies outlining acceptable AI use, risk management, ethical considerations, and protocols for bias detection and mitigation in AI applications.

b. AI Model and Framework Design

Our approach to building AI models and framework design for NCTCOG is structured and focused on delivering measurable outcomes.

Step 1- Define Objectives & Prioritize Use Cases:

Our AI experts will collaborate with NCTCOG stakeholders to identify goals and prioritize use cases based on ROI and feasibility, such as *predictive analytics for public safety*, *NLP for citizen engagement*, and *ML for predictive maintenance*.



Figure 6: AI Model Framework and Design

Step 2- Data Collection & Preprocessing: We will gather relevant, high-quality data, clean and normalize it, and split it into training and testing sets to ensure optimal model performance.

Step 3- Select Frameworks & Tools: Leveraging various AI frameworks like *TensorFlow*, *PyTorch*, or *Keras*, we will ensure compatibility with NCTCOG infrastructure and compliance requirements.

Step 4- Design Neural Networks: We will customize neural network architectures tailored to each use case, such as transformer models for NLP or deep learning models for predictive analytics.

Step 5- Train Models: Our team will define loss functions, optimizers, and parameters to train models iteratively, improving performance based on metrics like accuracy and precision.

Step 6- Prototype & Evaluate: Next, we will develop prototypes to validate performance, scalability, and accuracy, ensuring readiness for operational deployment.

Step 7- Optimize Models: Our team will enhance performance through techniques like regularization, dropout, and hyperparameter tuning to maximize results.

Step 8- Test & Deploy: We will conduct rigorous testing on independent datasets, deploy validated models into production, and monitor performance for continuous improvement.

c. Comprehensive Roadmap Development

Tryfacta's team of AI experts will develop a detailed AI roadmap to provide a clear path for implementation, governance, and performance monitoring. We will establish an oversight committee to monitor projects, address ethical concerns, and ensure alignment with organizational goals. A risk management plan will be developed to mitigate issues such as data breaches and algorithmic bias. The project timeline includes researching compliance requirements, finalizing use cases, validating prototypes, deploying pilot projects, and expanding successful initiatives. Resource requirements will involve assigning data scientists and AI engineers while securing necessary computational resources. Key performance indicators (KPIs) will measure operational efficiency, citizen engagement, compliance adherence, and scalability.

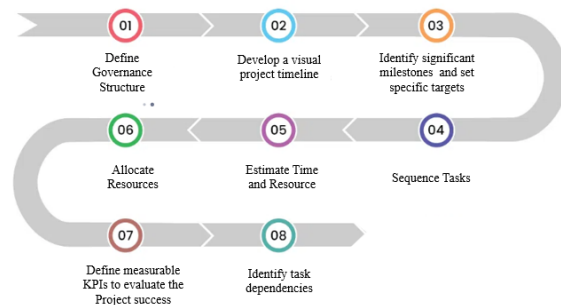


Figure 7: AI Roadmap Development

d. Cost Analysis

For each proposed AI solution, our team will provide a detailed cost analysis to ensure financial transparency and informed decision-making. Our analysis will include:

- **Development Costs:** Detailed breakdown of costs for design, prototyping, testing, and deployment of AI models and tools.
- **Cloud and Compute Costs:** Estimated expenses for cloud infrastructure, including computational resources, storage, and networking required for AI workloads.
- **Licensing and Subscriptions:** Costs for acquiring necessary licenses and subscriptions for software tools, frameworks, and third-party services.
- **Cloud Storage and Backup:** Financial estimates for storage solutions, including backup and disaster recovery plans.
- **Training and Support:** Budget allocations for training internal teams and providing ongoing technical support.
- **Long-Term Maintenance:** Projections for maintenance costs, including updates, retraining of AI models, and compliance audits.

e. Ethical and Regulatory Alignment

Tryfacta's AI experts will address various critical considerations to ensure that all AI solutions align with ethical guidelines and public sector regulations. These involve:

- **Data Privacy Laws:** Compliance with regulations like GDPR (if applicable) and internal data loss prevention (DLP) policies.

- **Ethical Guidelines:** Integration of ethical AI practices to ensure transparency, fairness, and accountability in AI operations.
- **Bias Mitigation:** Regular assessment and remediation of biases in AI models to promote equitable outcomes.
- **Transparency:** Clear documentation and communication of AI decision-making processes to foster trust and accountability.
- **Data Governance:** Implementation of robust governance frameworks to manage data integrity, quality, and security.

5.2.4 **Pilot Testing and Implementation Support**

Tryfacta's team of AI experts will provide end-to-end support to ensure the successful deployment, evaluation, and scaling of AI pilot solutions for the NCTCOG. This process will involve structured planning, iterative evaluation, comprehensive troubleshooting, and sustainable scaling, all aligned with NCTCOG's strategic objectives.

a. **Guiding the Organization Through Pilot AI Solution Implementation**

To guide NCTCOG through pilot AI solutions, we will use a phased approach:

Phase 1 - Selecting Pilot Use Cases: Identify high-impact areas like public safety, citizen engagement, and predictive maintenance, focusing on manageable projects with tangible outcomes.

Phase 2 - Establishing Objectives and KPIs: Define measurable goals (e.g., reducing maintenance costs, improving response times) and align KPIs with NCTCOG's strategic priorities.

Phase 3 - Building Cross-Functional Teams: Form teams with IT, data science, and business unit representatives to ensure technical feasibility and operational alignment.

Phase 4 - Rapid Implementation Using Agile Methodologies: Use iterative cycles to prototype, test, and refine AI solutions, monitor KPIs with tools like Tableau or Power BI, and gather feedback from employees and citizens.

Phase 5 - Resource Optimization: Ensure access to clean data, robust AI tools, and technical expertise, using platforms like Azure Machine Learning, AWS SageMaker, or Google Cloud AI for development and deployment.

b. **Working with Stakeholders to Evaluate, Troubleshoot, and Refine Pilot Projects**

We will collaborate with NCTCOG stakeholders across key departments, including public safety, transportation, and infrastructure, to evaluate pilot AI solutions. Our collaborative discussions will focus on key areas of evaluation, including ***technical performance, business impact, scalability, and alignment with strategic goals***. Leveraging tools like Tableau or Power BI, we will present real-time updates on KPIs such as cost savings, efficiency improvements, and error reduction. Stakeholder feedback from end-users, technical teams, and leadership will guide refinement efforts, ensuring alignment with organizational objectives and regulatory requirements.

Key Areas of Evaluation for Pilot Project

- **Technical Performance:** Tryfacta's team of AI experts will assess whether AI solutions meet benchmarks for accuracy, such as predictive maintenance or public safety response optimization.
- **Business Impact:** We will measure its impact on business by quantifying operational efficiency gains, cost reductions, and enhanced citizen services. We will demonstrate tangible outcomes aligned with departmental goals.
- **Scalability:** Our consultants will ensure AI solutions scale across departments with robust infrastructure and seamless integration into NCTCOG's legacy systems.
- **Alignment with Organizational Goals:** To accomplish this, we will validate that AI initiatives align with the Council's strategic priorities, including efficiency, citizen engagement, and compliance with regulations like FOIA and grant requirements.

Troubleshooting Issues

Our technical and compliance team will work proactively to resolve challenges that may arise during pilot implementation:

- *Technical Issues:* Address performance gaps such as inaccurate predictions, data processing inefficiencies, or integration challenges with existing systems.
- *Operational Hurdles:* Identify and mitigate user adoption barriers through training and process adjustments.
- *Regulatory Compliance:* Ensure compliance with relevant legal and policy standards (e.g., FOIA, grant requirements).

Refine AI solutions

Based on evaluations and feedback, we will refine AI solutions to maximize impact:

- *Model Optimization:* Enhance accuracy, usability, and efficiency through retraining and algorithm adjustments.
- *Data Governance:* Strengthen data quality, privacy, and security to support improved decision-making.
- *Stakeholder Training:* Conduct targeted training sessions and workshops to address operational challenges, build internal capacity, and foster confidence in AI tools.

c. Post-implementation support

Seamless System Integration

Our IT experts will ensure seamless integration of AI solutions with the organization's existing infrastructure by:

- *Developing Integration Frameworks:* Utilizing APIs and middleware, we will design and implement frameworks that facilitate seamless communication between AI systems and operational platforms across key departments such as public safety, citizen engagement, and infrastructure management.
- *Addressing Compatibility Challenges:* Our team will collaborate closely with the IT department to resolve compatibility issues, ensuring secure and efficient data exchange that adheres to organizational standards and regulations.
- *Conducting End-to-End Testing:* We will perform comprehensive testing of integrated systems to verify functionality, data accuracy, and alignment with legal, operational, and performance requirements prior to full deployment.

Scaling Strategies for AI Solutions

We will develop and execute a roadmap to scale AI adoption organization wide. This will involve

- *Building a Scaling Roadmap:* Prioritize high-impact use cases like public safety, citizen services, and infrastructure management, ensuring measurable ROI and alignment with strategic goals.
- *Resource Allocation:* Strategically allocate resources to high-value areas for smooth expansion and scalability.
- *Implementing a 5-Year Roadmap:* Develop a detailed 5-year AI roadmap with clear timelines, milestones, and resource requirements for phased and sustainable AI expansion.

5.2.5 Training, Adoption, and Capacity Building

Our team of AI experts and trainers is highly experienced in delivering hands-on training, fostering innovation, and enabling sustainable AI adoption within organizations.

a. Providing Training Sessions and Materials for Staff on AI Tools and Best Practices

Tryfacta's trainers will design customized training programs for various staff groups, including IT personnel, department heads, and end-users. Using a blended learning approach, we will combine *instructor-led sessions*, *self-paced e-learning modules*, and *hands-on workshops*. Comprehensive training materials, such as guides, manuals, and video tutorials, will focus on using AI tools, interpreting results, and troubleshooting. NCTCOG staff will have access to interactive resources like online simulations and AI sandboxes to experiment in a risk-free environment. Practical demonstrations will familiarize staff with AI applications such as predictive maintenance, citizen engagement, and process automation. We will provide refresher sessions and certifications to keep staff updated on AI

technologies and best practices. Pre- and post-training assessments will measure knowledge acquisition and identify areas needing further focus, with targeted follow-up support to address learning gaps.

b. Facilitating Workshops to Build Internal AI Capabilities and Innovative Culture

To foster innovation and build internal AI capabilities, we will organize **workshops** that bring together cross-departmental teams to develop AI-driven solutions for real-world challenges. These workshops will utilize **design-thinking methodologies** to promote creative problem-solving and cultivate an innovative mindset. Staff will also be introduced to advanced topics such as AI model customization, ethical AI practices, and data governance frameworks. External AI experts will be engaged in specialized training sessions and guest lectures to enhance the organization's internal expertise.

To encourage staff engagement, we will incorporate gamified challenges, such as hackathons and AI innovation competitions, rewarding departments or individuals who successfully integrate AI solutions into their workflows. Additionally, we will establish an **AI Champion Program**, identifying and training individuals within each department who can advocate for AI adoption, provide peer support, and act as a bridge between teams and leadership, ensuring a sustainable embrace of AI across the organization.

c. Developing a Knowledge Transfer Plan

To ensure the organization can independently manage and update AI systems, we will develop a robust knowledge transfer plan. This plan will include **creating comprehensive technical documentation**, such as system architecture diagrams, model development workflows, and maintenance procedures. These resources, housed in a centralized repository, will include FAQs, troubleshooting guides, and operational protocols, accessible to all staff. **Hands-on mentorship** will pair internal staff with external AI consultants during the early stages of AI implementation, providing real-time guidance. **Shadowing sessions** will enable staff to gain practical experience in managing and optimizing AI systems, building their confidence and competence. **Sustainability** will be a priority, with IT teams trained to handle updates, fine-tune models, and address system issues independently. This training will include key areas such as machine learning algorithms, data governance, & AI ethics to ensure long-term proficiency. Our AI experts will establish a long-term support framework, including **AI Centers of Excellence (CoEs)**, to foster collaboration and knowledge-sharing among internal teams. A feedback mechanism will also be implemented to refine AI capabilities and adapt to evolving organizational needs continuously. These efforts will position the NCTCOG to sustain and scale its AI systems effectively over time.

5.3 SPECIFICATIONS AND REQUIREMENTS:

5.3.1 Consultant Expertise and Qualifications

a) Experience in providing AI consultancy services :

Tryfacta has extensive experience providing AI consultancy services to government agencies and public sector organizations, including Miami Dade County, DART, Crimson Solutions, and HCL. Our successful engagements include developing and implementing AI solutions tailored to the unique requirements of public entities. More details in Section 4.2.2 [above](#).

b) Proficiency in Advanced AI Technologies

Our team of AI experts is proficient in cutting-edge AI technologies, including machine learning, natural language processing (NLP), computer vision, and predictive analytics. We leverage these capabilities to design innovative solutions that meet client needs. More details in section 4.2.1 [above](#).

c) Experience in AI Ethics, Privacy, and Security

Tryfacta demonstrated its commitment to ethical AI development by embedding fairness, transparency, and inclusivity throughout each project phase at various agencies, including **Miami-Dade County, DART, HCL, and Crimson Solutions**. We developed AI-driven solutions for public services that incorporated diverse datasets to eliminate bias and ensure equitable access for all residents. We implemented robust data privacy and security practices, including advanced encryption, data anonymization, and adherence to laws such as GDPR, HIPAA, and FedRAMP. These measures safeguarded sensitive data and maintained public trust. Our consultants ensured that all AI solutions aligned with public sector ethical standards, delivering reliable and secure systems that addressed organizational goals while protecting against potential breaches.

or misuse. This approach reflects Tryfacta's ongoing commitment to ethical, responsible, and impactful AI development in the public sector.

d) Collaborative and Accessible Communication

Tryfacta emphasizes collaboration by integrating seamlessly with internal teams to ensure smooth project execution. We regularly engage with stakeholders to gather requirements, provide status updates, and ensure alignment with objectives. Our consultants have demonstrated the ability to simplify complex technical concepts, enabling effective communication with non-technical audiences through clear documentation, workshops, and user-friendly reports.

e) Ability to work collaboratively with internal teams

We excel in translating technical concepts for non-technical stakeholders, ensuring clear communication and understanding. Using analogies, visual aids, and simple language, we bridge the gap between technical and non-technical perspectives. Our approach fosters collaboration, empowering all team members to contribute. We prioritize active listening to align technical solutions with organizational goals, enhancing project outcomes and building trust among diverse teams.

f) Understanding Public Sector Compliance and Ethics

With extensive experience in the public sector, Tryfacta is well-versed in adhering to compliance frameworks such as NIST, ISO 27001, and other government-mandated standards. We incorporate ethical AI practices and ensure solutions align with principles such as fairness, accountability, and sustainability. Our team's expertise in navigating public sector regulations ensures that AI implementations remain legally and ethically sound while addressing societal impacts. More details in section 4.3 [above](#).

5.3.2 Data Security and Privacy Compliance

Tryfacta is committed to ensuring compliance with all data security and privacy regulations, safeguarding sensitive information, and building trust with our clients. We recognize the critical importance of protecting data while enabling innovation and efficiency through AI. To achieve this, we have developed a comprehensive strategy to address compliance, documentation, and security measures.

a. Compliance with Data Privacy Laws

- ✓ **Understanding Legal Frameworks:** We will conduct a comprehensive analysis of all applicable federal, state, and local data privacy laws, including GDPR, CCPA (California Consumer Privacy Act), and other relevant regulations. This will involve engaging legal experts to interpret the implications of these laws on our operations and ensuring that all practices align with legal requirements.
- ✓ **Policy Development:** Our team will develop clear data privacy policies that articulate how we collect, use, store, and share personal data. These policies will be made accessible to all stakeholders and will include provisions for user consent, data access rights, and procedures for data deletion upon request.
- ✓ **Ongoing Compliance Audits:** We will implement a schedule for regular audits to assess compliance with data privacy laws. These audits will evaluate our data handling practices against legal standards and identify areas for improvement.

b. Documentation of AI Solutions

- ✓ **Comprehensive Compliance Documentation:** We will prepare detailed documentation that outlines the compliance measures integrated into our AI solutions.
 - **Data Processing Agreements (DPAs):** Establishing clear agreements that define the roles and responsibilities of all parties involved in data processing activities.
 - **Data Protection Impact Assessments (DPIAs):** Conducting DPIAs to evaluate risks associated with processing personal data and implementing mitigation strategies where necessary.
 - **Transparency Reports:** Providing regular reports that detail our data processing activities, including types of data processed, purposes of processing, and retention periods.
- ✓ **User Training Materials:** Developing training materials for users of our AI solutions to ensure they understand their responsibilities related to data protection and compliance.

c. Implementation of Security Measures

- ✓ **Advanced Data Encryption:** We will utilize state-of-the-art encryption methods (e.g., AES-256) for both data at rest and in transit. This ensures that sensitive information is protected from unauthorized access during storage and transmission.
- ✓ **Robust Access Controls:** We will implement multi-layered access controls that include:
 - **Role-Based Access Control (RBAC):** Limiting access to sensitive data based on user roles within the organization.
 - **Multi-Factor Authentication (MFA):** Requiring multiple forms of verification before granting access to sensitive systems or data.
- ✓ **Regular Security Assessments:** Our team of experts will conduct vulnerability assessments and penetration testing on a regular basis to identify potential security weaknesses. We will also engage third-party security firms for independent audits to validate our security posture.
- ✓ **Incident Response Plan:** We will develop a comprehensive incident response plan that outlines procedures for detecting, responding to, and recovering from data breaches. This plan will include communication protocols for notifying affected individuals and regulatory bodies as required by law.

By integrating these strategies into our operations, we will ensure that our AI solutions not only meet but exceed the necessary standards for data security and privacy compliance.

5.3.3 Project Management and Reporting

Tryfacta will manage the end-to-end project through a comprehensive and systematic approach designed to ensure effective collaboration, timely delivery, and adherence to established goals. Our project management framework utilizes the best practices of PMI's PMBOK standards and emphasizes regular communication with stakeholders, utilizing structured meetings and status updates to keep all parties informed of progress and challenges. We will implement a detailed project timeline that outlines key milestones and deliverables, ensuring that deadlines are met consistently. In addition, we will utilize project management tools like Jira and MS Teams to track progress and facilitate documentation, making it easier to manage tasks and resources efficiently. Our commitment to transparency will be reflected in our final report, which will summarize findings, provide actionable recommendations, and highlight lessons learned throughout the project lifecycle. This approach will foster accountability while enhancing the team's ability to adapt to any changes or challenges that arise during the project.

a. Regular Project Status Updates

- **Scheduled Meetings:** We will hold weekly or bi-weekly meetings with the organization's project management team to discuss project progress, address any challenges, and align on the next steps. These meetings will be structured with clear agendas and will include key stakeholders from both our team and the client's side to facilitate open communication.
- **Status Reports:** In addition to meetings, we will provide regular written status updates that summarize progress against milestones, highlight any issues encountered, and outline plans for the upcoming period. These reports will be distributed prior to each meeting to allow team members adequate time to review and prepare for discussions.

b. Detailed Final Report

At the conclusion of the project, we will compile a detailed final report that encompasses:

- **Findings:** A summary of key insights gathered throughout the project, including data analysis results and stakeholder feedback.
- **Recommendations:** Actionable recommendations based on our findings that align with the organization's strategic goals.
- **Implementation Results:** An overview of how our solutions were implemented, including metrics that demonstrate effectiveness and impact.
- **Lessons Learned:** A reflective section detailing what worked well and what could be improved in future projects. This will serve as a valuable resource for both our team and the organization.

c. Adherence to Project Deadlines

- **Timeline Management:** We will develop a detailed project timeline at the outset, outlining all key deliverables and deadlines.
- **Documentation Submission:** All required documentation will be prepared in advance of deadlines and submitted promptly. We will establish internal checkpoints to review documentation before submission to ensure accuracy and completeness.
- **Risk Management:** We will employ a proactive approach to risk management, identifying potential delays early and developing contingency plans to mitigate them. This includes regular risk assessments during our meetings to ensure any emerging issues are addressed swiftly.

5.3.4 **Budget and Cost Estimates**

In accordance with *Question 52 of Addendum No.1*, Tryfacta will provide budget and cost estimates, including detailed breakdowns of consultancy fees, software licensing costs, and other anticipated expenses, after the award. These details are not a current response requirement of the RFP.

5.3.5 **Data Strategy and Management**

We will adopt a comprehensive data strategy and management lifecycle approach, aligning AI solutions with best practices in data quality, governance, privacy, and security. This will involve:

- **Business Understanding:** We will collaborate with NCTCOG stakeholders to align AI goals with organizational objectives and compliance standards. These objectives will be reinforced by measurable KPIs to evaluate the success and impact of data-driven initiatives.
- **Data Understanding:** Our team of data analysts will assess data quality, analyze environments, and validate sources for AI readiness.
- **Data Preparation:** We will clean, transform, and label data for efficient model training and scalability.
- **Data Modeling:** After preparation, we will move to selecting algorithms, training models, and optimizing parameters to address specific AI use cases.
- **Model Evaluation:** Our team will test and validate models using metrics like accuracy and recall, ensuring real-world readiness.
- **Model Operationalization:** We will deploy models, integrate feedback, and monitor outputs to ensure alignment with objectives.
- **Governance and Scaling:** We will establish a robust governance framework encompassing data ownership, usage policies, and stewardship roles. This framework will include privacy, security, and compliance controls aligned with regulations such as GDPR, FOIA, and relevant local, state, and federal standards. Comprehensive training programs will promote a culture of accountability and compliance within the organization.

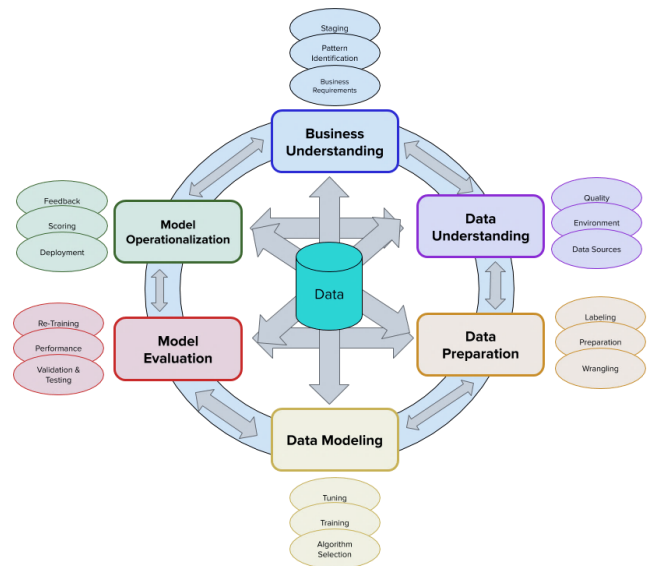


Figure 8: Data Strategy and Management Approach

Maintaining high **data quality** is a priority; we will implement automated data profiling, cleansing, and validation processes to ensure consistency and reliability. By incorporating a continuous monitoring system, we will detect and address anomalies in real time, supported by scheduled audits and updates.

A critical aspect of our approach is the **automation of data pipelines**. By leveraging advanced tools and frameworks, we will streamline data ingestion, transformation, and storage processes to minimize manual intervention and enhance efficiency. Seamless **data integration** across disparate systems will ensure that data flows smoothly and securely between sources, creating a unified and accessible data ecosystem for the organization. To ensure robust **data security**, we will implement encryption protocols, advanced access

controls, and regular risk assessments. Our consultants will also establish proactive incident response plans to mitigate any potential breaches. **Privacy and compliance** will be at the forefront of all activities, with methodologies for anonymizing sensitive data and securing proper consent embedded throughout the data lifecycle. Our solutions will strictly adhere to all relevant regulations, including GDPR, FOIA, and other local, state, and federal requirements. Our consultants will also ensure continuous evaluation and optimization of the data strategy by conducting periodic reviews and incorporating regulatory and technological advancements. To foster self-sufficiency, we will provide workshops and training sessions, empowering internal teams to manage and enhance the organization's data strategy.

5.3.5.1 Data Quality Controls

1. Ensuring Data Integrity and Accuracy

Our data consultants are committed to upholding the highest standards of data quality and integrity throughout AI model development. Our approach involves a structured, proactive implementation of robust data quality controls to ensure reliable and secure datasets for AI initiatives.

- Data Governance Framework: We will establish a comprehensive framework that defines roles, responsibilities, and processes to manage and maintain data quality organization-wide.
- Automated Quality Checks: Using advanced tools, we will perform automated checks to validate data accuracy, completeness, and consistency against predefined thresholds.
- Root Cause Analysis: When discrepancies arise, our team will conduct in-depth analyses to identify root causes and implement corrective measures to prevent recurrence.
- Data Quality Assurance: Throughout the data lifecycle, we will address errors, inconsistencies, outliers, and missing values through continuous monitoring and resolution strategies.

2. Establishing Data Validation Processes

Our data validation approach ensures high data accuracy and reliability throughout the lifecycle. It combines tailored validation rules, continuous monitoring, user feedback mechanisms, and systematic validation techniques to support effective decision-making and enhance AI model performance.

- Validation Rules Development: We will work closely with stakeholders to define precise validation rules that align with specific datasets and business requirements. These rules will be tailored to identify anomalies, inconsistencies, and errors early in the data lifecycle, preventing inaccuracies from propagating into downstream processes.
- Data Validation Techniques: To maintain data accuracy, we will apply various validation techniques, including range checks to ensure numerical data falls within acceptable ranges and detect outliers, format checks to verify data fields adhere to expected structures like date formats or unique identifiers, and cross-field validation to ensure consistency between data elements, such as confirming a shipment date precedes its delivery date.
- Continuous Monitoring: To ensure ongoing data quality, we will deploy real-time monitoring processes that track critical data quality metrics. This will enable us to detect discrepancies immediately, triggering automated or manual interventions to address issues as they arise.
- Feedback Loops: We will establish robust feedback mechanisms that allow users and stakeholders to report data issues directly. These reports will be logged and addressed by our team, fostering continuous improvement in data quality while enabling adaptive refinements to validation processes.

3. Define Data Enrichment Procedures

To enhance dataset quality effectively, we will establish and implement a comprehensive, structured data enrichment procedure that ensures datasets are accurate, relevant, and aligned with organizational needs.

- Data Assessment: Before initiating enrichment, we will conduct an in-depth assessment of the current state of the data at NCTCOG to identify gaps or opportunities for improvement. This clarifies what additional information is required to enhance datasets.
- Source Identification: We will identify reliable internal and external NCTCOG data sources that align with the enrichment objectives. These sources include demographic data, market trends, or other datasets that provide value and complement existing data.

- Data Cleansing: Prior to enrichment, we will ensure the dataset is clean and standardized. This involves eliminating duplicates, correcting errors, and ensuring uniformity in data formats. A thorough cleansing process guarantees that new data integrates seamlessly with existing datasets.
- Data Integration: Using advanced data integration techniques, we will merge new data with existing datasets while preserving consistency and accuracy. This ensures the enriched dataset is cohesive and readily usable for AI applications or analysis.
- Validation and Quality Assurance: Post-integration, we will conduct stringent validation and quality assurance to ensure enriched datasets meet criteria for accuracy, relevance, consistency, and utility. This ensures that data is correct, aligns with enrichment objectives, maintains uniformity, and provides actionable insights for AI models and business needs.
- Continuous Monitoring and Updating: To maintain the accuracy and relevance of datasets, we will implement continuous monitoring and regular updates. This ensures that the data evolves in line with organizational needs, market changes, and other influencing factors.
- Dissemination of Enriched Data: Once the datasets are enriched and validated, we will establish integrations to distribute enriched data across relevant NCTCOG systems and tools. This ensures NCTCOG stakeholders and teams have seamless access to updated datasets.

5.3.5.2 Data Governance Framework

Our team of data experts will develop a comprehensive strategy based on the Data Governance Framework's key components: Data Stewardship, Data Quality Management, Data Management, and Technology Infrastructure. This integrated approach will align with NCTCOG's operational goals by promoting transparency, compliance, and efficiency. By defining clear roles through Data Stewardship, ensuring data integrity with robust validation in Data Quality Management, focusing on secure data handling in Data Management, and leveraging scalable Technology Infrastructure, we will create a cohesive and sustainable governance model.

1. Governance Strategy

Our governance strategy will establish clear policies for data ownership, usage rights, and stewardship to ensure responsible handling of NCTCOG's data assets. This includes defining ownership and access rights for each dataset, ensuring accountability and compliance with organizational policies. Dedicated data stewards will be assigned to manage data accuracy, security, and accessibility, equipped with the necessary training and tools to enforce governance standards.

2. Facilitating Compliance

To meet public sector regulatory requirements, we will deliver actionable governance documentation and provide ongoing support to maintain compliance. Key initiatives include:

- Develop a comprehensive Data Stewardship Manual to outline compliance standards, governance policies, and operational procedures.
- Implementing data-sharing guidelines to meet federal, state, and local mandates. Conducting staff training workshops to ensure adherence to regulatory updates and governance protocols.

3. Processes for Version Control and Data Lineage

To maintaining transparency and control over data handling will require robust version control and data lineage tracking:

- Version Control: We will use tools like GitLab and Confluence to track dataset changes, ensuring all historical versions are documented and accessible.
- Data Lineage Tracking: Our data analysts will leverage tools such as Informatica or IBM InfoSphere to enable end-to-end visibility of data flows, ensuring that stakeholders can trace data from its source through every transformation.

5.3.5.3 Data Privacy Assurance

At **Tryfacta**, our team of experts will develop a multi-faceted approach that addresses compliance, data protection, and consent management throughout the AI model, ensuring adherence to data privacy

requirements. This approach will strengthen NCTCOG’s ability to manage data securely while fostering trust and meeting legal and ethical obligations.

1. Compliance with Data Privacy Laws

Our team will establish a compliance framework that ensures adherence to relevant data privacy laws, including GDPR (if applicable) and local legislation such as the Texas Privacy Protection Act. This includes conducting regular audits and assessments to verify compliance with legal obligations related to data processing, consent, and rights of individuals. We will implement Privacy Impact Assessments (PIAs) and Data Protection Impact Assessments (DPIAs) for all AI initiatives, especially those involving high-risk data processing activities, to identify and mitigate potential privacy risks before deployment.

2. Anonymization and Data Protection

To protect sensitive information, we will implement advanced anonymization techniques, such as data masking, tokenization, and encryption, ensuring that personal identifiers are removed before data enters the AI model lifecycle. Data will undergo anonymization at ingestion, ensuring that no personally identifiable information is used in training or testing AI models. Also, we will implement secure access control mechanisms, MFA, and continuous monitoring to prevent unauthorized access or breaches.

3. Data Consent Protocols

Our team of data experts will develop a robust protocol for obtaining and managing data consent, ensuring transparency and user awareness. This protocol will feature clear and detailed consent forms designed to inform individuals about the purpose, scope, and duration of data usage, fully aligned with legal and regulatory standards. To ensure accountability and traceability, we will maintain detailed, auditable records, capturing when and how consent was obtained. Additionally, automated consent management tools will be utilized to streamline the process, enabling efficient tracking of consent statuses, automating periodic consent renewals, and providing users with simple mechanisms to revoke consent at any time.

5.3.5.4 Data Security Protocols

Tryfacta’s team will develop a comprehensive and proactive strategy to safeguard data integrity, availability, and confidentiality. Our approach integrates robust security measures, incident response planning, and secure storage practices, ensuring NCTCOG’s data remains protected against unauthorized access, breaches, and data loss.

1. Data Security Measures

We will implement and recommend industry-standard security protocols to protect NCTCOG’s data assets. This includes:

- **Encryption:** We will implement strong encryption protocols for data at rest and in transit. Utilize advanced encryption standards (AES) to protect stored data and secure protocols like Transport Layer Security (TLS) for data in transit. This ensures that sensitive information is unreadable to unauthorized users, providing a robust defense against potential breaches.
- **Access Controls:** Our team of experts will establish granular access control mechanisms based on the principle of least privilege, ensuring that users only have access to role-specific data. This includes implementing MFA and regularly reviewing access permissions to maintain security.
- **Risk Assessment Practices:** We will conduct regular risk assessments to identify vulnerabilities within the data security framework. This includes evaluating potential threats and implementing mitigation strategies to address identified risks.

2. Response plan

To ensure a structured and effective response to data breaches or security incidents, we will employ a comprehensive plan aligned with the **NIST framework**. This approach involves:

1. Preparation: Tryfacta’s consultants will inventory critical IT assets, prioritize those handling sensitive data, and establish monitoring systems to detect anomalies. Our team will develop incident

response playbooks for common security threats, including AI-specific risks. Working closely with NCTCOG, we will identify critical assets, implement monitoring, and design tailored response protocols.

2. Detection and Analysis: Tryfacta will use advanced data collection to monitor logs, system events, and real-time activity, flagging deviations for investigation. By correlating events and leveraging threat intelligence, our team will identify and analyze incidents, providing actionable insights to mitigate risks and minimize the impact of security incidents.



Figure 9: Tryfacta's Response Plan

3. Containment, Eradication, and Recovery: When a security incident occurs, Tryfacta's team will promptly implement containment strategies to isolate affected systems and prevent further damage while minimizing disruption to ongoing AI operations. This involves halting compromised APIs, suspending model training, or disconnecting endpoints. After containment, we eradicate malicious elements and address vulnerabilities. Our team then facilitates the secure recovery of systems and AI workflows, ensuring the efficient resumption of operations.

4. Post-Incident Activity: After resolving an incident, we perform a root cause analysis to identify the breach's origin, assess vulnerabilities, and evaluate its impact on AI systems and data integrity. Based on our findings, we update security protocols, enhance incident response procedures, and introduce new safeguards for AI-specific risks. We will provide tailored training to internal teams to ensure they can handle future incidents and maintain robust cyber hygiene.

3. Secure Data Storage and Backup Practices

To protect against data loss, we will establish secure storage and backup protocols. These include:

- Ensuring that all data is stored securely using encrypted storage solutions, protecting it from unauthorized access or loss.
- Regularly reviewing storage practices to ensure compliance with industry standards.
- Implementing robust backup procedures that include regular backups of critical data, stored securely offsite or in the cloud, with encryption applied. This protects against data loss due to hardware failure, natural disasters, or cyber incidents.

5.3.5.5 Ongoing Data Strategy Evaluation:

Our team will develop a robust framework for ongoing data evaluation and training for NCTCOG to ensure that its data strategy remains dynamic, compliant with evolving regulations, and aligned with technological advancements.

1. Periodic Evaluation and Updates to the Data Strategy

Tryfacta's team of experts will establish a regular schedule for evaluating the data strategy on an annual basis or more frequently if significant regulatory changes or technological advancements occur. This evaluation will assess the effectiveness of current practices, identify areas for improvement, and ensure alignment with organizational goals. We will implement a system for monitoring changes in relevant regulations (e.g., GDPR, state privacy laws) and industry standards. This proactive approach will help NCTCOG adapt its data strategy to remain compliant and mitigate potential risks associated with non-compliance. To ensure the NCTCOG team is aware of technological advancements, we will ensure to keep them informed about emerging technologies and best practices in data management and AI. This is accomplished through attending conferences, participating in industry forums, and subscribing to relevant publications to ensure that the NCTCOG can leverage new tools and methodologies effectively.

2. Training and Workshops for Internal Teams

Our team will collaborate with NCTCOG stakeholders to develop a customized training program to equip internal teams with the skills needed to manage the organization's data strategy. Key topics include data governance, privacy compliance, security protocols, and data management best practices. The program features workshops and hands-on sessions with case studies, role-playing, and practical exercises to

encourage active engagement and collaboration. Ongoing support will be provided through documentation, FAQs, and a dedicated helpdesk to assist staff post-consultancy.

5.3.6 Ethical AI Requirements

5.3.6.1 Ethical Framework Alignment

Tryfacta ensures AI solutions adhere to a robust ethical framework by integrating fairness, transparency, accountability, privacy, sustainability, and inclusivity. **Biases** are eliminated using diverse datasets, fairness metrics, and debiasing techniques, supported by audits and stakeholder collaboration. **Transparency** is achieved through explainable AI (XAI) and clear documentation. Accountability is embedded via defined roles, governance, and auditability. **Data privacy** is safeguarded with encryption, anonymization, and adherence to privacy laws like GDPR. **Sustainability** is addressed by evaluating environmental impacts and optimizing resource use. Inclusivity is ensured by engaging diverse stakeholders to create equitable systems.

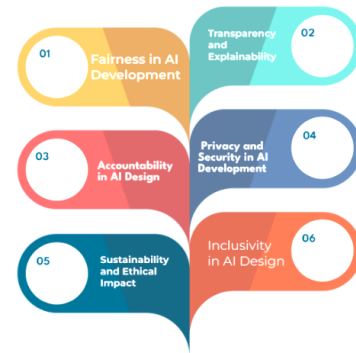


Figure 90: AI Ethical Framework

1. Alignment with Ethical Guidelines

Our AI experts and compliance specialists will ensure that all AI solutions adhere to globally recognized ethical guidelines, including the AI Ethics Principles from organizations such as the OECD, IEEE, and UNESCO, as well as Texas principles. We also align our solutions with NIST's AI Risk Management Framework and other applicable industry best practices. To ensure consistency, we will work closely with NCTCOG to understand its mission, vision, & specific ethical principles, embedding them into the AI lifecycle from design to deployment. Ethical impact assessments are conducted at critical milestones to evaluate potential risks related to privacy, accountability, transparency, and societal impact.

2. Integrating Fairness and Inclusiveness in AI Development

Tryfacta will promote fairness and inclusiveness in AI systems by preventing biases that could lead to discriminatory outcomes. This includes using diverse and representative training datasets, applying advanced algorithmic fairness techniques like adversarial debiasing and equalized odds constraints, and incorporating fairness metrics such as demographic parity, disparate impact, and equal opportunity to evaluate and improve model performance.

Our team emphasizes inclusive collaboration by engaging stakeholders, ethicists, and domain experts to ensure diverse perspectives in development. Regular audits and continuous monitoring of AI models help address emergent biases post-deployment. By fostering transparency, we empower NCTCOG users to understand AI decision-making processes and provide feedback mechanisms, ensuring accountability and trust. This holistic strategy ensures fairness, inclusivity, and equitable outcomes, supporting ethical decision-making and aligning with NCTCOG goals.

5.3.6.2 Bias Detection and Mitigation

Tryfacta employs a comprehensive approach to bias detection and mitigation, ensuring AI systems produce fair and equitable outcomes. This involves

1. Bias Detection and Mitigation

- We will implement data auditing processes using statistical analyses and visualization tools to identify and address potential biases in training datasets, ensuring fair representation of all demographic groups.
- Fairness-aware algorithms will be employed to detect and mitigate biases in both training data and model outputs, reducing the risk of biased outcomes.
- Diverse data collection strategies will ensure comprehensive representation, engaging community stakeholders to include underrepresented groups.

2. Ongoing Monitoring Techniques

We will establish KPIs related to fairness and bias, continuously monitoring these metrics throughout AI deployment to evaluate performance across demographic groups. Regular post-deployment audits will assess outputs for biases using real-world data. This includes real-time performance tracking, periodic

audits, and feedback from end-users and stakeholders to identify and address emergent biases. Feedback mechanisms will allow users and stakeholders to report perceived biases, informing model refinements.

5.3.6.3 Transparency Protocols

Tryfacta's team of AI and data experts will ensure that AI systems follow Transparency Protocols and are interpretable, understandable, and accountable to all stakeholders.

1. Ensure AI Models are Understandable

Tryfacta ensures that AI models are designed with transparency in mind, making them interpretable and understandable to all relevant stakeholders. We will design all AI models with interpretability in mind, employing techniques such as decision trees or XAI methods. This will enhance stakeholder understanding of how decisions are made by our AI systems. Clear documentation on model behavior will be provided, detailing how input features influence outputs, ensuring that this information is accessible to relevant stakeholders.

2. Documentation Process

We will develop a comprehensive documentation process that outlines:

- ✓ **Data Sources:** We will detail all data sources used in model development, including collection methods and preprocessing steps.
- ✓ **Decision Logic:** The decision-making logic of our AI models will be documented, including algorithms used and assumptions made during development.
- ✓ **Model Outputs:** Insights into model outputs will be provided, including performance metrics and accuracy rates across different demographic groups.

This documentation will be kept up to date throughout the lifecycle of the AI system and made easily accessible for stakeholder review.

5.3.6.4 Accountability Measures

Tryfacta will establish robust accountability measures to ensure transparency, traceability, and responsibility throughout the AI development and deployment lifecycle. This is done through:

1. Defined Accountability Measures

Our AI experts will establish clear roles and responsibilities for all stakeholders in AI development and deployment. We will implement tracking systems to monitor and document actions during model development and updates, decisions made by the AI system with reasoning and outputs logged for review, and changes to the model, including version control and update history. Our team will ensure these records are accessible to relevant stakeholders for accountability and transparency.

2. Auditing Mechanisms

- Develop a framework for periodic audits to verify:
 - Compliance with ethical standards, organizational principles, and regulatory requirements.
 - The integrity and accuracy of AI outputs.
 - The fairness and inclusivity of the AI system to prevent biases.
- Use automated tools and independent review processes for thorough evaluations of the AI system's performance and impact.
- Provide detailed audit reports with actionable insights to address any gaps or concerns.

5.3.6.5 Impact Assessments

To ensure that our AI initiatives at the NCTCOG are ethically sound and socially responsible, we will implement the following strategies for Impact Assessments:

1. Plans for Conducting Regular Ethical Impact Assessments (EIAs)

We will schedule regular EIAs to evaluate the societal, cultural, and operational impacts of our AI solutions at key lifecycle stages: pre-deployment, during implementation, and post-deployment. These assessments will engage diverse NCTCOG stakeholders, including community representatives, experts, and internal teams, to identify concerns related to fairness, privacy, and social equity. We will use established frameworks and guidelines, such as the AI Ethics Guidelines from the OECD or IEEE, to ensure comprehensive and best-practice-aligned assessments.

2. Framework for Addressing Findings with Corrective Actions

Our structured framework to address findings from our ethical impact assessments, include:

- **Identification of Findings:** Documenting risks or concerns, categorized by severity and impact.
- **Corrective Action Plans:** Outlining specific actions to mitigate risks, such as revising algorithms, enhancing data governance, or training NCTCOG staff.
- **Implementation Timeline:** Establishing timelines for corrective actions, ensuring accountability, and tracking progress.
- **Follow-Up Evaluations:** Conducting evaluations post-implementation to assess effectiveness and make adjustments.

5.4 DELIVERABLES

Tryfacta is committed to providing a set of deliverables that comprehensively addresses the requirements for successful AI strategy development and implementation.

Deliverables	Description
a. Initial AI Strategy Report	<ul style="list-style-type: none"> • This serves as the foundation for defining goals, priorities, and strategic alignment of AI initiatives with organizational objectives. • Recommendation: Ensure the report includes an analysis of current capabilities, key challenges, and opportunities for AI adoption.
b. Feasibility Study with AI Use Case Recommendations	<ul style="list-style-type: none"> • A critical step to validate the practicality of AI initiatives should assess organizational readiness, potential ROI, and risks. • The inclusion of a detailed data strategy component ensures that data management and quality align with AI implementation needs.
c. 5-Year AI Roadmap and Detailed AI Implementation Plan	<ul style="list-style-type: none"> • Provides a long-term vision with actionable steps, timelines, milestones, and resource requirements. • Recommendation: Incorporate KPIs for tracking progress and adjust the roadmap based on evolving needs and technologies
d. Pilot Implementation Plan	<ul style="list-style-type: none"> • Essential for testing and validating AI solutions before full-scale deployment. • Ensure the plan defines success metrics, risk mitigation strategies, and a feedback loop for iterative improvements.
e. Staff Training Sessions and Knowledge Transfer Plan	<ul style="list-style-type: none"> • Builds internal capacity to manage and sustain AI systems post-consultation. • Recommendation: Focus on practical, hands-on training sessions and include materials like user guides, FAQs, and case studies.
f. Detailed Documentation on Ethical AI Guidelines	<ul style="list-style-type: none"> • Vital for maintaining trust and compliance with ethical standards. • Recommendation: Include real-world examples to illustrate how guidelines are applied and monitored in practice.
g. Final Project Report	<ul style="list-style-type: none"> • Summarizes the entire project, including outcomes, lessons learned, and future recommendations. • Recommendation: Highlight measurable impacts, such as efficiency gains or improved decision-making, to demonstrate value.

6. PRICING

Please refer to the attached spreadsheet “Pricing Proposal” submitted as part of the proposal package.

7. HUB BONUS



Women Business Enterprise (WBE)
Tryfacta, Inc.

Tryfacta, Inc.

has filed with the Agency an Affidavit as defined by NCTRCA Women Business Enterprise (WBE) Policies & Procedures and is hereby certified to provide service(s) in the following areas:

NAICS 541214: PAYROLL SERVICES
NAICS 541511: CUSTOM COMPUTER PROGRAMMING SERVICES
NAICS 541519: OTHER COMPUTER RELATED SERVICES
NAICS 541611: ADMINISTRATIVE MANAGEMENT AND GENERAL MANAGEMENT CONSULTING SERVICES
NAICS 541618: OTHER MANAGEMENT CONSULTING SERVICES
NAICS 561320: CONTRACT STAFFING SERVICES
NAICS 561320: TEMPORARY STAFFING SERVICES

This Certification commences January 17, 2023 and supersedes any registration or listing previously issued. This certification must be updated every two years by submission of an Annual Update Affidavit. At any time there is a change in ownership, control of the firm or operation, notification must be made immediately to the North Central Texas Regional Certification Agency for eligibility evaluation.

Certification Expiration: January 31, 2025
Issued Date: January 17, 2023
CERTIFICATION NO. IFWB32621N0125



Certification Administrator

8. REQUIRED ATTACHMENTS

8.1 ATTACHMENT I: INSTRUCTIONS FOR PROPOSALS COMPLIANCE AND SUBMITTAL

ATTACHMENT I: INSTRUCTIONS FOR PROPOSALS COMPLIANCE AND SUBMITTAL

Compliance with the Solicitation

Submissions must be in strict compliance with this solicitation. Failure to comply with all provisions of the solicitation may result in disqualification.

Compliance with the NCTCOG Standard Terms and Conditions

By signing its submission, Offeror acknowledges that it has read, understands and agrees to comply with the NCTCOG standard terms and conditions.

Acknowledgment of Insurance Requirements

By signing its submission, Offeror acknowledges that it has read and understands the insurance requirements for the submission. Offeror also understands that the evidence of required insurance must be submitted within ten (10) working days following notification of its offer being accepted; otherwise, NCTCOG may rescind its acceptance of the Offeror's proposals. The insurance requirements are outlined in Section 2.2 - General Terms and Conditions.

Name of Organization/Contractor(s):

Tryfacta, Inc

Signature of Authorized Representative:

ARMAN DHAR

Digitally signed by ARMAN DHAR
Date: 2025.01.10 17:21:43 -08'00'

Date: 1/9/25

8.2 ATTACHMENT II: CERTIFICATION OF OFFEROR

ATTACHMENT II: CERTIFICATIONS OF OFFEROR

I hereby certify that the information contained in this proposal and any attachments is true and correct and may be viewed as an accurate representation of proposed services to be provided by this organization. I certify that no employee, board member, or agent of the North Central Texas Council of Governments has assisted in the preparation of this proposal. I acknowledge that I have read and understand the requirements and provisions of the solicitation and that the organization will comply with the regulations and other applicable local, state, and federal regulations and directives in the implementation of this contract.


I also certify that I have read and understood all sections of this solicitation and will comply with all the terms and conditions as stated; and furthermore that I, Arman Dhar (typed or printed name) certify that I am the VP of Operations (title) of the corporation, partnership, or sole proprietorship, or other eligible entity named as offeror and respondent herein and that I am legally authorized to sign this offer and to submit it to the North Central Texas Council of Governments, on behalf of said offeror by authority of its governing body.

Name of Organization/Contractor(s):

Tryfacta Inc.

Signature of Authorized Representative:

ARMAN DHAR

 Digitally signed by ARMAN DHAR
Date: 2025.01.10 17:22:13 -08'00'

Date: 1/9/25

8.3 ATTACHMENT III: CERTIFICATION REGARDING DEBARMENT

**ATTACHMENT III: CERTIFICATION
REGARDING DEBARMENT, SUSPENSION AND OTHER RESPONSIBILITY MATTERS**

This certification is required by the Federal Regulations Implementing Executive Order 12549, Debarment and Suspension, 45 CFR Part 93, Government-wide Debarment and Suspension, for the Department of Agriculture (7 CFR Part 3017), Department of Labor (29 CFR Part 98), Department of Education (34 CFR Parts 85, 668, 682), Department of Health and Human Services (45 CFR Part 76).

The undersigned certifies, to the best of his or her knowledge and belief, that both it and its principals:

1. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any federal department or agency;
2. Have not within a three-year period preceding this contract been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or Local) transaction or contract under a public transaction, violation of federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification, or destruction of records, making false Proposals, or receiving stolen property;
3. Are not presently indicated for or otherwise criminally or civilly charged by a government entity with commission of any of the offense enumerated in Paragraph (2) of this certification; and,
4. Have not within a three-year period preceding this contract had one or more public transactions terminated for cause or default.

Where the prospective recipient of federal assistance funds is unable to certify to any of the qualifications in this certification, such prospective recipient shall attach an explanation to this certification form.

Name of Organization/Contractor(s):

Tryfacta Inc.

Signature of Authorized Representative:

ARMAN DHAR

Digitally signed by ARMAN DHAR
Date: 2025.01.10 17:22:52 -08'00'

Date: 1/9/25

8.4 ATTACHMENT IV: RESTRICTIONS ON LOBBYING**ATTACHMENT IV: RESTRICTIONS ON LOBBYING**

Section 319 of Public Law 101-121 prohibits recipients of federal contracts, grants, and loans exceeding \$100,000 at any tier under a federal contract from using appropriated funds for lobbying the Executive or Legislative Branches of the federal government in connection with a specific contract, grant, or loan. Section 319 also requires each person who requests or receives a federal contract or grant in excess of \$100,000 to disclose lobbying.

No appropriated funds may be expended by the recipient of a federal contract, loan, or cooperative agreement to pay any person for influencing or attempting to influence an officer or employee of any federal executive department or agency as well as any independent regulatory commission or government corporation, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with any of the following covered federal actions: the awarding of any federal contract, the making of any federal grant, the making of any federal loan the entering into of any cooperative agreement and the extension, continuation, renewal, amendment, or modification of any federal contract, grant, loan, or cooperative agreement.

As a recipient of a federal grant exceeding \$100,000, NCTCOG requires its subcontractors of that grant to file a certification, set forth in Appendix B.1, that neither the agency nor its employees have made, or will make, any payment prohibited by the preceding paragraph.

Subcontractors are also required to file with NCTCOG a disclosure form, set forth in Appendix B.2, if the subcontractor or its employees have made or have agreed to make any payment using nonappropriated funds (to include profits from any federal action), which would be prohibited if paid for with appropriated funds.

**LOBBYING CERTIFICATION
FOR CONTRACTS, GRANTS, LOANS, AND COOPERATIVE AGREEMENTS**

The undersigned certifies, to the best of his or her knowledge or belief, that:


1. No federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an officer or employee of a Member of Congress in connection with the awarding of any federal contract, the making of any federal loan, the entering into of any cooperative Contract, and the extension, continuation, renewal, amendment, or modification of any federal contract, grant, loan, or cooperative contract; and
2. If any funds other than federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this federal contract, grant, loan, and or cooperative contract, the undersigned shall complete and submit Standard Form – LLL, “Disclosure Form to Report Lobbying”, in accordance with the instructions.
3. The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers and that all sub-recipients shall certify accordingly.

Name of Organization/Contractor(s):

Tryfacta Inc.

Signature of Authorized Representative:

ARMAN DHAR

 Digitally signed by ARMAN DHAR
Date: 2025.01.10 17:23:22 -08'00'

Date: 1/9/25

8.5 ATTACHMENT V: DRUG-FREE WORKPLACE CERTIFICATION

ATTACHMENT V: DRUG-FREE WORKPLACE CERTIFICATION

The Tryfacta, Inc (company name) will provide a Drug Free Work Place in compliance with the Drug Free Work Place Act of 1988. The unlawful manufacture, distribution, dispensing, possession or use of a controlled substance is prohibited on the premises of the Tryfacta, Inc. (company name) or any of its facilities. Any employee who violates this prohibition will be subject to disciplinary action up to and including termination. All employees, as a condition of employment, will comply with this policy.

CERTIFICATION REGARDING DRUG-FREE WORKPLACE

This certification is required by the Federal Regulations Implementing Sections 5151-5160 of the Drug-Free Workplace Act, 41 U.S.C. 701, for the Department of Agriculture (7 CFR Part 3017), Department of Labor (29 CFR Part 98), Department of Education (34 CFR Parts 85, 668 and 682), Department of Health and Human Services (45 CFR Part 76).

The undersigned subcontractor certifies it will provide a drug-free workplace by:

Publishing a policy Proposal notifying employees that the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance is prohibited in the workplace and specifying the consequences of any such action by an employee;

Establishing an ongoing drug-free awareness program to inform employees of the dangers of drug abuse in the workplace, the subcontractor's policy of maintaining a drug-free workplace, the availability of counseling, rehabilitation and employee assistance programs, and the penalties that may be imposed on employees for drug violations in the workplace;

Providing each employee with a copy of the subcontractor's policy Proposal;

Notifying the employees in the subcontractor's policy Proposal that as a condition of employment under this subcontract, employees shall abide by the terms of the policy Proposal and notifying the subcontractor in writing within five days after any conviction for a violation by the employee of a criminal drug abuse statute in the workplace;

Notifying the Board within ten (10) days of the subcontractor's receipt of a notice of a conviction of any employee; and,


Taking appropriate personnel action against an employee convicted of violating a criminal drug statute or requires such employee to participate in a drug abuse assistance or rehabilitation program.

Name of Organization/Contractor(s):

Tryfacta, Inc

Signature of Authorized Representative:

ARMAN DHAR

 Digitally signed by ARMAN DHAR
Date: 2025.01.10 17:24:19 -08'00'

Date: 1/9/25

8.6 ATTACHMENT VI: CERTIFICATION REGARDING DISCLOSURE OF CONFLICT OF INTEREST

**ATTACHMENT VI: DISCLOSURE OF CONFLICT OF INTEREST
CERTIFICATION REGARDING DISCLOSURE OF CONFLICT OF INTEREST**

The undersigned certifies that, to the best of his or her knowledge or belief, that:

"No employee of the contractor, no member of the contractor's governing board or body, and no person who exercises any functions or responsibilities in the review or approval of the undertaking or carrying out of this contract shall participate in any decision relating to this contract which affects his/her personal pecuniary interest.

Executives and employees of contractor shall be particularly aware of the varying degrees of influence that can be exerted by personal friends and associates and, in administering the contract, shall exercise due diligence to avoid situations which give rise to an assertion that favorable treatment is being granted to friends and associates. When it is in the public interest for the contractor to conduct business with a friend or associate of an executive or employee of the contractor, an elected official in the area or a member of the North Central Texas Council of Governments, a permanent record of the transaction shall be retained.

Any executive or employee of the contractor, an elected official in the area or a member of the NCTCOG, shall not solicit or accept money or any other consideration from a third person, for the performance of an act reimbursed in whole or part by contractor or Department. Supplies, tools, materials, equipment or services purchased with contract funds shall be used solely for purposes allowed under this contract. No member of the NCTCOG shall cast a vote on the provision of services by that member (or any organization which that member represents) or vote on any matter which would provide a direct or indirect financial benefit to the member or any business or organization which the member directly represents".

No officer, employee or paid consultant of the contractor is a member of the NCTCOG.

No officer, manager or paid consultant of the contractor is married to a member of the NCTCOG.

No member of NCTCOG directly owns, controls or has interest in the contractor.

The contractor has disclosed any interest, fact, or circumstance that does or may present a potential conflict of interest.

No member of the NCTCOG receives compensation from the contractor for lobbying activities as defined in Chapter 305 of the Texas Government Code.


Should the contractor fail to abide by the foregoing covenants and affirmations regarding conflict of interest, the contractor shall not be entitled to the recovery of any costs or expenses incurred in relation to the contract and shall immediately refund to the North Central Texas Council of Governments any fees or expenses that may have been paid under this contract and shall further be liable for any other costs incurred or damages sustained by the NCTCOG as it relates to this contract.

Name of Organization/Contractor(s):

Tryfacta, Inc

Signature of Authorized Representative:

ARMAN DHAR

 Digitally signed by ARMAN DHAR
Date: 2025.01.10 17:24:54 -08'00'

Date: 1/9/25

CONFLICT OF INTEREST QUESTIONNAIRE For vendor doing business with local governmental entity		FORM CIQ
<p><small>This questionnaire reflects changes made to the law by H.B. 23, 84th Leg., Regular Session.</small></p> <p><small>This questionnaire is being filed in accordance with Chapter 176, Local Government Code, by a vendor who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the vendor meets requirements under Section 176.006(a).</small></p> <p><small>By law this questionnaire must be filed with the records administrator of the local governmental entity not later than the 7th business day after the date the vendor becomes aware of facts that require the statement to be filed. See Section 176.006(a-1), Local Government Code.</small></p> <p><small>A vendor commits an offense if the vendor knowingly violates Section 176.006, Local Government Code. An offense under this section is a misdemeanor.</small></p>	<div style="border: 1px solid black; padding: 2px; text-align: center; font-weight: bold; font-size: small;">OFFICE USE ONLY</div> <div style="border: 1px solid black; padding: 2px; font-size: x-small;">Date Received</div>	
<p>1 Name of vendor who has a business relationship with local governmental entity.</p> <p style="text-align: center;">None</p>	<p>2 <input type="checkbox"/> Check this box if you are filing an update to a previously filed questionnaire. (The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than the 7th business day after the date on which you became aware that the originally filed questionnaire was incomplete or inaccurate.)</p>	
<p>3 Name of local government officer about whom the information is being disclosed.</p> <p style="text-align: center;">None</p> <p style="text-align: center; font-size: x-small;">Name of Officer</p>		
<p>4 Describe each employment or other business relationship with the local government officer, or a family member of the officer, as described by Section 176.003(a)(2)(A). Also describe any family relationship with the local government officer. Complete subparts A and B for each employment or business relationship described. Attach additional pages to this Form CIQ as necessary.</p> <div style="margin-top: 20px;"> <p>A. Is the local government officer or a family member of the officer receiving or likely to receive taxable income, other than investment income, from the vendor?</p> <p style="text-align: center;"> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No </p> <p>B. Is the vendor receiving or likely to receive taxable income, other than investment income, from or at the direction of the local government officer or a family member of the officer AND the taxable income is not received from the local governmental entity?</p> <p style="text-align: center;"> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No </p> </div>		
<p>5 Describe each employment or business relationship that the vendor named in Section 1 maintains with a corporation or other business entity with respect to which the local government officer serves as an officer or director, or holds an ownership interest of one percent or more.</p>		
<p>6 <input type="checkbox"/> Check this box if the vendor has given the local government officer or a family member of the officer one or more gifts as described in Section 176.003(a)(2)(B), excluding gifts described in Section 176.003(a-1).</p>		
<p>7</p> <div style="display: flex; justify-content: space-between; margin-top: 20px;"> <div style="width: 60%;"> <p>Signature of vendor doing business with the governmental entity</p> </div> <div style="width: 35%; text-align: right;"> <p>1/9/25</p> <p>Date</p> </div> </div>		

Form provided by Texas Ethics Commission

www.ethics.state.tx.us

Revised 1/1/2021

CONFLICT OF INTEREST QUESTIONNAIRE
For vendor doing business with local governmental entity

A complete copy of Chapter 176 of the Local Government Code may be found at <http://www.statutes.legis.state.tx.us/Docs/LG/htm/LG.176.htm>. For easy reference, below are some of the sections cited on this form.

Local Government Code § 176.001(1-a): "Business relationship" means a connection between two or more parties based on commercial activity of one of the parties. The term does not include a connection based on:

- (A) a transaction that is subject to rate or fee regulation by a federal, state, or local governmental entity or an agency of a federal, state, or local governmental entity;
- (B) a transaction conducted at a price and subject to terms available to the public; or
- (C) a purchase or lease of goods or services from a person that is chartered by a state or federal agency and that is subject to regular examination by, and reporting to, that agency.

Local Government Code § 176.003(a)(2)(A) and (B):

- (a) A local government officer shall file a conflicts disclosure statement with respect to a vendor if:

...

- (2) the vendor:

- (A) has an employment or other business relationship with the local government officer or a family member of the officer that results in the officer or family member receiving taxable income, other than investment income, that exceeds \$2,500 during the 12-month period preceding the date that the officer becomes aware that

- (i) a contract between the local governmental entity and vendor has been executed;

or

- (ii) the local governmental entity is considering entering into a contract with the vendor;

- (B) has given to the local government officer or a family member of the officer one or more gifts that have an aggregate value of more than \$100 in the 12-month period preceding the date the officer becomes aware that:

- (i) a contract between the local governmental entity and vendor has been executed; or
 - (ii) the local governmental entity is considering entering into a contract with the vendor.

Local Government Code § 176.006(a) and (a-1)

- (a) A vendor shall file a completed conflict of interest questionnaire if the vendor has a business relationship with a local governmental entity and:

- (1) has an employment or other business relationship with a local government officer of that local governmental entity, or a family member of the officer, described by Section 176.003(a)(2)(A);

- (2) has given a local government officer of that local governmental entity, or a family member of the officer, one or more gifts with the aggregate value specified by Section 176.003(a)(2)(B), excluding any gift described by Section 176.003(a-1); or

- (3) has a family relationship with a local government officer of that local governmental entity.

- (a-1) The completed conflict of interest questionnaire must be filed with the appropriate records administrator not later than the seventh business day after the later of:

- (1) the date that the vendor:

- (A) begins discussions or negotiations to enter into a contract with the local governmental entity; or

- (B) submits to the local governmental entity an application, response to a request for proposals or bids, correspondence, or another writing related to a potential contract with the local governmental entity; or

- (2) the date the vendor becomes aware:

- (A) of an employment or other business relationship with a local government officer, or a family member of the officer, described by Subsection (a);

- (B) that the vendor has given one or more gifts described by Subsection (a); or

- (C) of a family relationship with a local government officer.

8.7 ATTACHMENT VII: CERTIFICATION OF FAIR BUSINESS PRACTICES

ATTACHMENT VII: CERTIFICATION OF FAIR BUSINESS PRACTICES


That the submitter has not been found guilty of unfair business practices in a judicial or state agency administrative proceeding during the preceding year. The submitter further affirms that no officer of the submitter has served as an officer of any company found guilty of unfair business practices in a judicial or state agency administrative during the preceding year.

Name of Organization/Contractor(s):

Tryfacta, Inc

Signature of Authorized Representative:

ARMAN DHAR

 Digitally signed by ARMAN DHAR
Date: 2025.01.10 17:25:20 -08'00'

Date: 1/9/25

8.8 ATTACHMENT VIII: CERTIFICATION OF GOOD STANDING TEXAS CORPORATE FRANCHISE TAX CERTIFICATION

**ATTACHMENT VIII: CERTIFICATION OF GOOD STANDING
TEXAS CORPORATE FRANCHISE TAX CERTIFICATION**

Pursuant to Article 2.45, Texas Business Corporation Act, state agencies may not contract with for profit corporations that are delinquent in making state franchise tax payments. The following certification that the corporation entering into this offer is current in its franchise taxes must be signed by the individual authorized on Form 2031, Corporate Board of Directors Resolution, to sign the contract for the corporation.

The undersigned authorized representative of the corporation making the offer herein certified that the following indicated Proposal is true and correct and that the undersigned understands that making a false Proposal is a material breach of contract and is grounds for contract cancellation.

Indicate the certification that applies to your corporation:

☒

The Corporation is a for-profit corporation and certifies that it is not delinquent in its franchise tax payments to the State of Texas.

☐

The Corporation is a non-profit corporation or is otherwise not subject to payment of franchise taxes to the State of Texas.

Type of Business (if not corporation):

☐

Sole Proprietor

☐

Partnership

☒

Other

Pursuant to Article 2.45, Texas Business Corporation Act, the North Central Texas Council of Governments reserves the right to request information regarding state franchise tax payments.

Arman Dhar, VP of Operations

(Printed/Typed Name and Title of Authorized Representative)

ARMAN DHAR

Digitally signed by ARMAN DHAR
Date: 2025.01.10 17:25:44 -08'00'

Signature

Date: _____

8.9 ATTACHMENT IX: HISTORICALLY UNDERUTILIZED BUSINESSES

**ATTACHMENT IX: HISTORICALLY UNDERUTILIZED BUSINESSES,
MINORITY OR WOMEN-OWNED OR DISADVANTAGED BUSINESS ENTERPRISES**

Historically Underutilized Businesses (HUBs), minority or women-owned or disadvantaged businesses enterprises (M/W/DBE) are encouraged to participate in the solicitation process.

NCTCOG recognizes the certifications of most agencies. HUB vendors must submit a copy of their certification for consideration during the evaluation of their proposal. Please attach the copy to this form. This applies only to the Offeror and not a subcontractor.

Texas vendors who are not currently certified are encouraged to contact either the Texas United Certification Program, State of Texas HUB Program, or the North Central Texas Regional Certification Agency, among others. Contact:

State of Texas HUB Program
Texas Comptroller of Public Accounts
Lyndon B. Johnson State Office Building
111 East 17th Street
Austin, Texas 78774
(512) 463-6958
<http://www.window.state.tx.us/procurement/prog/hub/>

North Central Texas Regional Certification Agency
624 Six Flags Drive, Suite 100
Arlington, TX 76011
(817) 640-0606
<http://www.nctrea.org/certification.html>

Texas United Certification Program
USDOT website at
<https://www.transportation.gov/DBE>

You must include a copy of your certification document as part of this solicitation to receive points in the evaluation.

Vendor to Sign Below to Attest to Validity of Certification:

Tryfacta, Inc

Vendor Name

ARMAN DHAR Digitally signed by ARMAN DHAR
Date: 2025.01.10 17:23:52 -0800

Authorized Signature

Arman Dhar

Typed Name

1/9/25

Date

☐ Not applicable.

8.10 ATTACHMENT X: FEDERAL AND STATE OF TEXAS REQUIRED PROCUREMENT PROVISIONS

ATTACHMENT X: NCTCOG FEDERAL AND STATE OF TEXAS REQUIRED PROCUREMENT PROVISIONS

The following provisions are mandated by Federal and/or State of Texas law. Failure to certify to the following will result in disqualification of consideration for contract. Entities or agencies that are not able to comply with the following will be ineligible for consideration of contract award.

PROHIBITED TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT CERTIFICATION

This Contract is subject to the Public Law 115-232, Section 889, and 2 Code of Federal Regulations (CFR) Part 200, including §200.216 and §200.471, for prohibition on certain telecommunications and video surveillance or equipment. Public Law 115-232, Section 889, identifies that restricted telecommunications and video surveillance equipment or services (e.g., phones, internet, video surveillance, cloud servers) include the following:

- A) Telecommunications equipment that is produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliates of such entities).
- B) Video surveillance and telecommunications equipment produced by Hytera Communications Corporations, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliates of such entities).
- C) Telecommunications or video surveillance services used by such entities or using such equipment.
- D) Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, Director of the National Intelligence, or the Director of the Federal Bureau of Investigation reasonably believes to be an entity owned or controlled by the government of a covered foreign country. The entity identified below, through its authorized representative, hereby certifies that no funds under this Contract will be obligated or expended to procure or obtain telecommunication or video surveillance services or equipment or systems that use covered telecommunications equipment or services as a substantial or essential component of any system, or as a critical technology as part of any system prohibited by 2 CFR §200.216 and §200.471, or applicable provisions in Public Law 115-232 Section 889.

☐ The Contractor or Subrecipient hereby certifies that it does comply with the requirements of 2 CFR §200.216 and §200.471, or applicable regulations in Public Law 115-232 Section 889.

SIGNATURE OF AUTHORIZED PERSON: _____

NAME OF AUTHORIZED PERSON: _____

NAME OF COMPANY: _____

DATE: _____

-OR-

☒ The Contractor or Subrecipient hereby certifies that it cannot comply with the requirements of 2 CFR §200.216 and §200.471, or applicable regulations in Public Law 115-232 Section 889.

SIGNATURE OF AUTHORIZED PERSON: _____

ARMAN DHAR

Digitally signed by ARMAN DHAR
Date: 2025.01.10 17:26:18 -08'00'

NAME OF AUTHORIZED PERSON: _____

Arman Dhar

NAME OF COMPANY: _____

Tryfacta, Inc.

DATE: _____

1/9/25

DISCRIMINATION AGAINST FIREARMS ENTITIES OR FIREARMS TRADE ASSOCIATIONS

This contract is subject to the Texas Local Government Code chapter 2274, Subtitle F, Title 10, prohibiting contracts with companies who discriminate against firearm and ammunition industries.

TLGC chapter 2274, Subtitle F, Title 10, identifies that "discrimination against a firearm entity or firearm trade association" includes the following:

- A) means, with respect to the entity or association, to:
 - I. refuse to engage in the trade of any goods or services with the entity or association based solely on its status as a firearm entity or firearm trade association; and
 - II. refrain from continuing an existing business relationship with the entity or association based solely on its status as a firearm entity or firearm trade association; or
 - III. terminate an existing business relationship with the entity or association based solely on its status as a firearm entity or firearm trade association.
- B) An exception to this provision excludes the following:
 - I. contracts with a sole-source provider; or
 - II. the government entity does not receive bids from companies who can provide written verification.

The entity identified below, through its authorized representative, hereby certifies that they have no practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association; and that they will not discriminate during the term of the contract against a firearm entity or firearm trade association as prohibited by Chapter 2274, Subtitle F, Title 10 of the Texas Local Government Code.

☒ The Contractor or Subrecipient hereby certifies that it does comply with the requirements of Chapter 2274, Subtitle F, Title 10.

SIGNATURE OF AUTHORIZED PERSON:	ARMAN DHAR <small>Digitally signed by ARMAN DHAR Date: 2025.01.13 05:42:33 -08'00'</small>
NAME OF AUTHORIZED PERSON:	Arman Dhar
NAME OF COMPANY:	Tryfacta, Inc
DATE:	1/13/25

-OR-

☐ The Contractor or Subrecipient hereby certifies that it cannot comply with the requirements of Chapter 2274, Subtitle F, Title 10.

SIGNATURE OF AUTHORIZED PERSON:	_____
NAME OF AUTHORIZED PERSON:	_____
NAME OF COMPANY:	_____
DATE:	_____

BOYCOTTING OF CERTAIN ENERGY COMPANIES

This contract is subject to the Texas Local Government Code chapter 809, Subtitle A, Title 8, prohibiting contracts with companies who boycott certain energy companies.


TLGC chapter Code chapter 809, Subtitle A, Title 8, identifies that "boycott energy company" means, without an ordinary business purpose, refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations with a company because the company:

- I. engages in the exploration, production, utilization, transportation, sale, or manufacturing of fossil fuel-based energy and does not commit or pledge to meet environmental standards beyond applicable federal and state law; and
- II. does business with a company described by paragraph (I).

The entity identified below, through its authorized representative, hereby certifies that they do not boycott energy companies, and that they will not boycott energy companies during the term of the contract as prohibited by Chapter 809, Subtitle A, Title 8 of the Texas Local Government Code.

☒ The Contractor or Subrecipient hereby certifies that it does comply with the requirements of Chapter 809, Subtitle A, Title 8.

SIGNATURE OF AUTHORIZED PERSON: ARMAN DHAR

 Digitally signed by ARMAN DHAR
Date: 2025.01.13 05:43:52 -08'00'

NAME OF AUTHORIZED PERSON: Arman Dhar

NAME OF COMPANY: Tryfacta, Inc

DATE: 1/13/25

-OR-

☐ The Contractor or Subrecipient hereby certifies that it cannot comply with the requirements of Chapter 809, Subtitle A, Title 8.

SIGNATURE OF AUTHORIZED PERSON: _____

NAME OF AUTHORIZED PERSON: _____

NAME OF COMPANY: _____

DATE: _____

8.11 EXHIBIT 1: SERVICE DESIGNATION AREAS

EXHIBIT 1: SERVICE DESIGNATION AREAS

Texas Service Area Designation or Identification			
Proposing Firm Name:			
Notes:	Indicate in the appropriate box whether you are proposing to service the entire state of Texas		
	Will service the entire state of Texas	Will not service the entire state of Texas	
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	If you are not proposing to service the entire state of Texas, designate on the form below the regions that you are proposing to provide goods and/or services to. By designating a region or regions, you are certifying that you are willing and able to provide the proposed goods and services.		
Item	Region	Metropolitan Statistical Areas	Designated Service Area
1.	North Central Texas	16 counties in the Dallas-Fort Worth Metropolitan area	
2.	High Plains	Amarillo Lubbock	
3.	Northwest	Abilene Wichita Falls	
4.	Upper East	Longview Texarkana, TX-AR Metro Area Tyler	
5.	Southeast	Beaumont-Port Arthur	
6.	Gulf Coast	Houston-The Woodlands- Sugar Land	
7.	Central Texas	College Station-Bryan Killeen-Temple Waco	
8.	Capital Texas	Austin-Round Rock	
9.	Alamo	San Antonio-New Braunfels Victoria	
10.	South Texas	Brownsville-Harlingen Corpus Christi Laredo McAllen-Edinburg-Mission	
11.	West Texas	Midland Odessa San Angelo	
12.	Upper Rio Grande	El Paso	

(Exhibit 1 continued on next page)

(Exhibit 1 continued)

Nationwide Service Area Designation or Identification Form			
Proposing Firm Name:			
Notes:		Indicate in the appropriate box whether you are proposing to provide service to all Fifty (50) States.	
		Will service all fifty (50) states	Will not service fifty (50) states
		<input checked="" type="checkbox"/>	<input type="checkbox"/>
		<p>If you are not proposing to service to all fifty (50) states, then designate on the form below the states that you will provide service to. By designating a state or states, you are certifying that you are willing and able to provide the proposed goods and services in those states.</p> <p>If you are only proposing to service a specific region, metropolitan statistical area (MSA), or City in a State, then indicate as such in the appropriate column box.</p>	
Item	State	Region/MSA/City (write "ALL" if proposing to service entire state)	Designated as a Service Area
1.	Alabama		
2.	Alaska		
3.	Arizona		
4.	Arkansas		
5.	California		
6.	Colorado		
7.	Connecticut		
8.	Delaware		
9.	Florida		
10.	Georgia		
11.	Hawaii		
12.	Idaho		
13.	Illinois		
14.	Indiana		
15.	Iowa		
16.	Kansas		
17.	Kentucky		
18.	Louisiana		
19.	Maine		
20.	Maryland		

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21.	Massachusetts		
22.	Michigan		
23.	Minnesota		
24.	Mississippi		
25.	Missouri		
26.	Montana		
27.	Nebraska		
28.	Nevada		
29.	New Hampshire		
30.	New Jersey		
31.	New Mexico		
32.	New York		
33.	North Carolina		
34.	North Dakota		
35.	Ohio		
36.	Oregon		
37.	Oklahoma		
38.	Pennsylvania		
39.	Rhode Island		
40.	South Carolina		
41.	South Dakota		
42.	Tennessee		
43.	Texas		
44.	Utah		
45.	Vermont		
46.	Virginia		
47.	Washington		
48.	West Virginia		
49.	Wisconsin		
50.	Wyoming		

End of Exhibit 1

9. APPENDIX A: ADDENDA ACKNOWLEDGEMENT AND SIGNATURE OF AUTHORIZED REPRESENTATIVE

TXShare

Your Public Sector Solutions Center

REQUEST FOR PROPOSALS
For
Artificial Intelligence (AI) Consultancy Services
RFP # 2025-023

Sealed proposals will be accepted until 2:00 PM CT, December 18, 2024, and then publicly opened and read aloud thereafter.

Tryfacta Inc.

Legal Name of Proposing Firm

Arman Dhar

Contact Person for This Proposal

VP of Operations

Title

925 640 3641

Contact Person Telephone Number

Arman.Dhar@Tryfacta.com

Contact Person E-Mail Address

4637 Chabot Drive, Suite 100 Pleasanton California 94588

Street Address of Principal Place of Business

City/State

Zip

637 Chabot Drive, Suite 100 Pleasanton California 94588

Mailing Address of Principal Place of Business

City/State

Zip

Arman Dhar

Point of Contact for Contract Negotiations

VP of Operations

Title

925 640 3641

Point of Contact Telephone Number

Arman.Dhar@Tryfacta.com

Point of Contact Person E-Mail Address

Acknowledgment of Addenda (initial): #1 X #2 _____ #3 _____ #4 _____ #5 _____

NOTE: Any confidential/proprietary information must be clearly labeled as "confidential/proprietary". All proposals are subject to the Texas Public Information Act.

COVER SHEET

10. APPENDIX B- KEY PERSONNEL RESUMES

10.1 PROJECT MANAGER

Name	Positions title
Sharon Griffin	Project Manager
Education / Certifications	
<ul style="list-style-type: none"> Master of Science Degree, Applied Information Technology, Towson University, Towson, MD, 2011 Bachelor of Science Degree, Management Science, Coppin State College, Baltimore, Maryland, 2003. PMP Certified Certified Scrum Master 	
Technical Skills	
<ul style="list-style-type: none"> Agile + Waterfall Methodologies Stakeholder Management Strategic Planning Hardware: Mainframe (including zOS, PPF and MISF); Linux and Solaris application and database servers; Oracle, DB2 and Postgres relational databases Software: Java; JavaScript; Angular; Springboot; COBOL; XML; SQL; MS Project, Word, Excel, Visio; Jira; Confluence; VersionOne; Jenkins; Smartsheet; Artificial Intelligence Tools (ChatGPT, Claude, Gemini); SharePoint Environments: AWS Cloud (PaaS and SaaS) 	
Professional Experience	
Edwards Performance Solutions, Columbia, Maryland 06/08/23 – 01/05/24 Senior Project Manager <ul style="list-style-type: none"> As Senior Project Manager for a Maryland State client, routinely monitored the workload of developers and analysts assigned to implement code changes that adhered to Legislative mandates. Managed \$5,000,000 budget appropriated for the Maryland State client's project. Managed project plans while ensuring specific features were delivered on time and within budget. Hosted information sessions with Security Guard and Private Detective Agencies throughout the State to garner support for a Public Professional Licensing Program. Prepared and communicated project status to MD State Leadership on a bi-weekly basis. 	
Social Security Administration, Woodlawn, Maryland 10/30/2017- 10/31/2022 Branch Chief/Lead IT Specialist <ul style="list-style-type: none"> As Branch Chief, directed a Branch of 23 employees involved in one or more systems functions including the planning, analysis, requirements, testing and validation of various applications. Established branch goals and based on periodic evaluation, determined the need to adjust them. Evaluated staff by administering performance appraisals during established intervals. Reviewed resumes of potential candidates and participated on interview panels. Rated applicants and recommended applicants for positions. As Team Lead/technical expert with over 10 years of experiencing managing projects, collaborated with Sponsors/Stakeholders, Managers, Architect Engineers, developers, analysts and contractors to ensure successful implementation of both Agile and Waterfall end-to-end web projects. Ensured that developed business requirements were successfully migrated through all phases of the Systems Development Lifecycle (SDLC) by paying close attention to detail during requirement meetings. 	

- Led negotiations with staff across multiple business management components to resolve technical issues as they occurred while maintaining applications. Several applications resided in the AWS Cloud environment and utilized modern technology such as Angular, Bitbucket and the MDE pipeline.
- Facilitated grooming sessions with team to assign points to user stories. Monitored progress of user stories by attending daily Scrum sprint sessions. Removed obstacles encountered during sprint sessions as they were encountered.
- Successfully implemented numerous configuration management initiatives by leading highly effective cross-functional project teams.

Centers for Medicare & Medicaid Svc., Woodlawn, MD

02/06/2017-10/24/17

IT Specialist

- Monitored the Open Payments System, a national transparency system mandated by the Affordable Care Act (ACA). This system reports on payments made by pharmaceutical companies and medical manufacturers to physicians and teaching hospitals.
- Presented weekly status to Leadership on the overall IT health of the Open Payments System in a cross-component workgroup setting.
- Monitored Open Payment Systems' project activities to mitigate technical risks.
- Briefed Leadership on contractor performance and advised of any technical roadblocks while suggesting resolutions.
- Represented Leadership by attending meetings with pharmaceutical companies such as Pfizer and Eli Lilly to gather requirements and best practices for the Open Payments Program and System. These best practice discussions led to surveys and white papers used by national and international pharmaceutical companies, geared to increase performance and productivity as well as adhere to Government compliance.
- Researched current trends in payment data between Physicians/Teaching Hospitals and Pharmaceutical companies and presented findings to management at scheduled intervals. Gathered and manipulated data using current ETL technology.

Social Security Administration, Woodlawn, Maryland

05/22/2011-01/27/2017

Lead IT Specialist

- Rendered apt technical leadership by managing and organizing multiple project teams of developers and analysts. Routinely engaged with clients and customers and provided assistance during all phases of the Systems Development Lifecycle (SDLC) to ensure exemplary customer satisfaction while performing work on numerous business strategy initiatives. Meticulously completed tasks to make certain that the details of each task were accurate while implementing multiple competing projects.
- Managed multi-component workgroup requirements and design meetings; established priorities for multiple work products; delegated tasks accordingly to meet challenging deadlines and ensure adherence to system integration practices; and acted as coach and mentor to developers and analysts to provide guidance on matters such as resource allocation and risk management.
- Attended key Executive level meetings and gave effective oral presentations and briefings to recommend software improvement strategies; presented project status to the technical Architecture and Infrastructure Review Boards while paying attention to verbal and non-verbal cues and responding appropriately.
- Managed and led technical teams to determine technical needs and remain proactive in incident response situations; identified software and hardware risks and issues that arose during the SDLC and used sound technical expertise to make recommendations to resolve those issues. Assisted with software testing on occasion while using the Firefox environment.

10.2 FULL-STACK DEVELOPER

Name	Keerthi Punugunta	Positions title	Full-Stack Developer
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Education / Certifications

- Master of Science in Computer Science, Indiana State University, USA (2014)
- Bachelor of Technology in Computer Science, JNTUH, India (2013)

Technical Skills

- **Programming Languages:** C#, VB.Net, Net Core, .NET 4.5/6, Java
- **.NET Technologies:** C# 11, MVC 4.0,5.0, Web API, VB.Net, ASP.Net, ADO.Net, Entity Framework, LINQ
- **Databases:** SQL Server 2019/2016/2008/2005
- **Web Technologies:** AngularJS, ReactJS, Bootstrap, jQuery, JSON, Knockout, AJAX, DRUPAL, HTML, CSS, XML, Web Services, XSLT, Python
- **Operating Systems:** WIN XP/VISTA/7/8/10, Windows 9x/NT/2019/2022
- **IDE Tools:** Visual Studio 10.0/12.0, Team Foundation Server, SQL Enterprise Manager, TOAD, SSRS, Eclipse, Web Storm
- **Web Server:** Microsoft Internet Information Services (IIS)
- **Cloud Services:** Verizon, IBM, Azure

Professional Experience

State of Iowa, Department of Transportation, DSM, IA

Sept 2022 – Present

Senior Dot Net Developer (Remote Position)

- Actively participated in daily standup meetings, collaborating with Business Analysts, Project Managers, Solution Architects, and Product Owners to provide work status updates and engage in bi-weekly retrospectives and story grooming sessions
- Proficient in interpreting and gathering requirements from UML diagrams.
- Re-engineered SSIS packages and optimized SSRS queries to enhance application performance across departments.
- Extensively utilized Git for version control, managing source code effectively across multiple development teams.
- Developed web pages utilizing C#, VB.NET, MVC, CSS, Bootstrap, AJAX, and JavaScript.
- Involved in web modernization of application to achieve same look and feel and better customer experience. Implemented session management, view state, and cookies to maintain application state effectively.
- Created complex SQL joins, triggers, views, stored procedures, and scheduled SQL jobs.
- Designed dynamic client-side JavaScript for process simulation, page navigation, and form validation in web applications.
- Configured Jenkins servers and created build jobs to enable continuous integration and automated builds. This setup was designed to trigger builds automatically based on Git repository polling, ensuring up-to-date deployment pipelines.
- Worked extensively with applications leveraging Entity Framework and ADO.NET.
- Developed and maintained web pages for the DL tracking application using ASP.NET, MVC5, Web API, jQuery, and Telerik.
- Analyzed performance trends and recommended process improvements. Implemented Dependency Injection for reusable code and injected mock objects during unit testing.
- Built CI/CD pipelines to streamline the development and deployment of project branches. Participated in production deployments, creating hotfixes to resolve issues promptly.
- Developed and unit tested .NET-based code using Visual Studio 2019. Served as the Subject Matter Expert (SME) for application development throughout the software development lifecycle.
- Engaged in technology analysis and systems requirement discussions to guide future development. Utilized DevOps and Azure DevOps (ADO) for issue tracking and reporting.

<ul style="list-style-type: none"> Managed multiple applications and web services related to the daily operations of the Department of Transportation. <p>Environment: ASP.NET, MVC, VB Script, Agile, NET Core, Visual Studio 2019, IIS 10.0, C#, ASP.Net, CSS, HTML, jQuery, AJAX, Bootstrap, SQL Server, DevOps and ADO, MS Teams, MS Visio.</p>	
<p>Ashley Global Retail, Tampa, FL</p> <p>Senior .Net developer</p> <ul style="list-style-type: none"> Engineered and modularized large business entities into smaller, manageable microservices through reverse engineering techniques. Crafted Graph QL queries to efficiently fetch data from Hy-graph for web applications. Implemented a headless API strategy using Hy-graph, creating models, schemas, and web hooks to seamlessly integrate microservices. Developed front-end components using Svelte, enhancing user interface functionality. Designed and implemented comprehensive logging and monitoring solutions for microservices. Specialized in architecting and deploying backend microservices to development and staging environments via Azure DevOps. Leveraged Git for both versioning and source code sharing, maintaining a clean and organized code-base. Created ASP.NET Core Web APIs tailored to specific departmental needs and technical specifications. Engaged in Agile Scrum practices, contributing to the full lifecycle of business application development in a dynamic environment. Involved in creating migration designs to migrate services to microservices. Utilized Docker to containerize microservices, ensuring consistent and efficient deployment. Analyzed and refactored legacy .NET applications, focusing on backend SQL integration and modernization. Orchestrated Docker containers using Kubernetes for streamlined application deployment and management. Adhered to company coding standards, publishing high-quality code through Git. Collaborated with fellow developers to establish and enforce best coding practices and standards. Conducted thorough code reviews and participated in requirement-gathering sessions. Azure Web Apps, REST APIs, and Azure Functions, contributing to scalable cloud solutions. Participated in technology analysis and systems requirement discussions, offering insights for future developments. Led complex platform designs, coding initiatives, and testing efforts, serving as an escalation point for critical issues. Environment: .NET, Svelte, jQuery, Telerik/ Kendo UI Plugin, .NET Core, HTML/HTML5, Java Script, jQuery, JSP, AJAX, JSO, CSS/CSS3 and MVC Framework, Kubernetes, Microservices, Visual Studio 2020, HTML, CSS, Bootstrap, Microsoft .Net Based Technologies like ASP.Net, C#, MVC 4,5, Razor, IIS, Hy-graph, Graph QL, Agile. 	<p>March 2022 –Aug 2022</p>
<p>State of Iowa, Department of Transportation, DSM, IA</p> <p>Senior Dot Net Developer (Remote Position)</p> <ul style="list-style-type: none"> Involve in daily standup meetings and interact with BA, Project Manager, Solution Architecture and Product owners to give the status of the work and participate in Bi-Weekly Story retro, story grooming. Ability to understand & gather requirements based on UML diagrams. Experience in re-writing the SSIS packages and SSRS queries for better performance of applications in both departments. Involved in creation of Webpages using C#, VB.NET, MVC, CSS, Bootstrap, AJAX, JavaScript. 	<p>Jan 2021 – March 2022</p>

- Implemented Session Management, View state and Cookie(s) to maintain state in the applications.
- Experience in creating Joins, Triggers, Views, SQL stored procedures and scheduling SQL Jobs.
- Designed dynamic client-side JavaScript codes to simulate process for web application, page navigation and form validation.
- Worked on applications that have Entity Framework and ADO.NET.
- Developed and perform maintenance of webpages for DL tracking application by using ASP.NET, MVC5, Web API, jQuery, Telerik.
- Experience in analyze performance trends and recommend process improvements.
- Implemented Dependency Injection for reusability & injection of mock objects while writing unit test cases.
- Experience in building CI/CD pipelines for building project development branches.
- Participated in production deployments to resolve issues by creating hotfixes.
- Developing and unit testing Microsoft .NET-based code using Visual Studio 2019.
- Serve as application development Subject Matter Expert (SME) throughout the software development lifecycle.
- Involved in technology analysis and systems requirements discussions.
- Experience using DevOps & ADO for issue tracking and reporting.
- Experience working on multiple applications and web services related to department of transportation day to day services.

Environment: ASP.NET, MVC, VB Script 6, Agile, NET Core, Visual Studio 2019, IIS 10.0, C#, ASP.Net, CSS, HTML, jQuery, AJAX, Bootstrap, SQL Server, DevOps and ADO, MS Teams, MS Visio.

**State of Iowa, Department of Health/Human Services, DSM, IA
Senior Dot Net Developer (Remote Position)**

May 2020 – Nov 2020

- Developed and migrated a project called IOWA's from Classic ASP to ASP.NET with a team of 4 people.
- Used Web Form Controls to create web pages.
- Involved in web modernization efforts to create a better overall user experience.
- Used Server Side Validate Controls to validate the form fields.
- Used Grid View Controls to display data from the database with paging and sorting.
- Actively interacted with developers on how to implement best coding practices and standards.
- Involved in Application code reviews.
- Involved in designing UI using HTML5, CSS3, jQuery, Bootstrap (for making it responsive) & ensure that the UI looks same as legacy app (Classic ASP).
- Experience in building CI/CD pipelines for building project development branches.
- Implemented Error Handling using Try-Catch-Finally methodology.
- Used ADO.Net extensively for database interactions using Data Reader, Data Adapter, Data view and Datasets.
- Also involved in facilitating DSU's for the technology team & provide updates to Bureau Chiefs, Technical Lead & SME on daily basis.
- Designed the flow of transactions, reviewed designs specifications using MS-Visio and designed application screen mock-ups.
- Used SQL*Loader as an ETL tool to load data into the staging tables.
- Used DTS Packages as ETL tool for migrating Data from SQL Server 2000 to Oracle 10g.
- Involved in migrating an application from asp.net to core using entity framework code first approach.
- Worked on unit tests in Microsoft .NET-based code using Visual Studio 2019.

- Actively involved in using Azure DevOps as part of development.
- Using Unified Modeling Language (UML) to document the technology solution, including class diagrams, activity diagrams, sequence diagrams and deployment diagrams.
- Communicate any design/implementation changes and associated impacts via the change management process.
- Participate in technology analysis and systems requirements discussions.

Environment: ASP, VB Script, MS Visual Basic 6.0(VB6), Visual Studio 2019, ETL, IIS 10.0, C#, ASP.Net, CSS, HTML, jQuery, AJAX, Bootstrap, SQL Server, DevOps and ADO, MS Teams, MS Visio.

WELLS FARGO, DSM, IA

June 2018 – May 2020

Senior Application Developer

Provide support for the most complex technical issues and initiatives related to large-scale applications systems, databases and/or other technical products and services.

- Worked on other development projects as sole programmer for creating APIs to JIRA database and creating reports on team performance.
- Leveraged PowerShell scripting to streamline VM management.
- Developed micro services using python to collect machine usage data from different data centers.
- Worked on various SSIS migrations to power-shell as part of the policy.
- Leads most complex multiple modeling, simulations, and analysis efforts.
- Troubleshoots network, hardware, software, and databases issues and coordinates resolution with users, vendors, and internal service groups.
- Utilizes a thorough understanding of available technology tools and existing designs.
- Write and/or troubleshoot with various programming languages in Microsoft .NET, C#, ASP.NET Web API, ADO.NET, PHP, Razor, HTML 5.0, CSS, jQuery, ReactJS, Telerik/ Kendo UI Plugin, Bootstrap, Visual Studio 2017, Team Foundation Service 2015.
- Will support and work with MS-SQL servers and databases, SQL 2014/2016, SSRS, SSIS, T-SQL.
- Supporting an enterprise level environment using Agile practices and SDLC compliant processed.
- Actively participated with the team in migration of environment to Azure and worked on CD/CI pipeline setup, maintenance, and deployments in Azure environment.
- Developed ASP.NET Core Web API to retrieve data from JIRA and to SQL to create reports.
- Ability to interact effectively at varying levels of the business and technical organizations, including management.
- Used React-Router to turn application into Single Page Application.
- Worked in using React JS components, Forms, Events.
- Used Web services (SOAP and RESTful) for transmission of large blocks of XML/ JSON.
- Perform complex migrations from development to production, upgrades, installations and/or configurations.
- Acts as an expert technical resource to programming staff in the program development, testing and implementation process.
- Will work within a team or other teams providing production support to existing applications and data-bases helping to deliver new and existing application components and functionality.
- Evaluate or review queries to extract data, create standard databases, or perform limited programming to fine tune systems supported.
- Creates change or issue logs, tracking all work performed in workflow and problem tracking systems.

- Assesses changes and deployments for risk to production systems and assure quality, security and compliance requirements are met for supported areas.
- Works on the most complex problems where analysis of situation or data requires evaluation of intangible variance factors.
- May act as an internal consultant regarding use of tools and processes identifying gaps in current technology processes and recommending changes to assure SLAs can be supported.
- Updates or writes documentation and procedures and creates and/or provides related training.
- Analyze performance trends and recommend process improvements.
- Experience supporting an enterprise-level environment using AGILE practices and SDLC compliant management.

Environment: ReactJS, .NET CORE, PHP, Python, jQuery, Telerik/ Kendo UI Plugin, HTML/HTML5, Java Script, jQuery, JSP, AJAX, JSO, CSS/CSS3 and MVC Framework, Bootstrap, Azure DevOps, Azure Functions, Visual Studio 2017, Team Foundation Service 2015., HTML, CSS, Bootstrap, Compass, Microsoft .Net Based Technologies like ASP.Net, C#, MVC 4,5, Razor, IIS, SQL Server, Team City

IBM / VERIZON WIRELESS, MD, USA January 2016 – April 2018

Senior Dot Net Developer

- Developed, maintained various cloud applications for Verizon cloud services using Angular JS 1.2 and Node JS 0.10.
- Developed a web-based application using Angular JS, React JS, Knockout JS, MVC, MVC.Net, C#.NET, SQL Server 2012, AJAX, JavaScript, Bootstrap, Style Sheets (CSS3) and Layout Pages.
- Experience in developing ASP.NET MVC application in AngularJS 2.
- Implemented CRUD functionality with Entity framework in ASP.NET MVC and implemented sorting, filtering, and paging with Entity framework in MVC.
- Developed responsive client-side application to integrate with server side using JavaScript, Query, AngularJS, Node.js and Bootstrap.
- Used .NET MVC Framework 4.0 with AJAX Server Control and toolkit to asynchronously retrieve data from server for a better performance and an increase in interactive animation on web pages.
- Proficient in using AJAX for implementing dynamic Web Pages where the content was fetched via API calls and updated the DOM (JSON Parsing).
- As a fast-moving project used AGILE/ SCRUM methodology for the development.
- Involved in developing and maintaining Business Applications utilizing JavaScript (Node JS) to support the user Interface screen and other design needs in a global environment.
- Involved in development of cross browser compatible web pages using HTML/HTML5, JavaScript, jQuery, JSP, AJAX, JSO, CSS/CSS3 and MVC Framework.
- Experience in deploying the Cassandra cluster in cloud, on premises, data storage and disaster recovery.
- Experience in designing data models in Cassandra and working with Cassandra Query Language.
- Responsible for checking cross browser compatibility, Responsive Web Design and hence worked on different browsers like Safari, Firefox, Google Chrome, and Internet Explorer.
- Involved in developing application styles in Bootstrap and CSS 3.
- Actively involved in migration of node server from Node 0.10 to Node 6 and Angular 1.2 to 2.
- Involved in developing various UI widgets using JavaScript libraries like Angular JS, React JS, and Node JS.
- Worked on Azure environment architecture and deployment.

- Involved in working with various features of ReactJS and NodeJS to design responsive web applications.
- Performed updates to the SQL system as assigned by management.
- Working knowledge on index design and T-SQL performance tuning techniques and T-SQL coding methods.
- Supported database administration and participated in special projects related to database administration.
- Worked on Custom directives, Controllers, Services, filter modules on Angular JS.
- Created View models for the application and for its each view template.
- Managing the databases for the application and even documenting the application.
- Support production systems, analyze and solve problems related to the application.
- Actively involved in deploying and configuring the buildings on a day-to-day basis using internal tool Team City Server.

Environment: AngularJS, ReactJS, Node JS, jQuery, Knockout, HTML, CSS, Bootstrap, AGILE, Compass, Microsoft .Net Based Technologies like ASP.Net, C#, MVC 4,5, Razor, IIS, Cassandra, SQL Server, Team City

Palm Beach Accountable Care Organization, FL, USA January 2015 – December 2015

.NET Developer

- Developed, maintained various applications for the processing of ACO using Microsoft .Net frame-work.
- Implemented CRUD functionality with Entity framework in ASP.NET MVC and implemented sorting, filtering, and paging with Entity framework in MVC.
- Designed and developed an interactive Content Management System (CMS) with a back end in ASP.Net (C#) with an MS-SQL database server, utilizing a browser driven component for content editing, with inline previewing.
- Used build in jQuery MVC validations and written custom validators as required.
- Actively involved in deploying and configuring the builds on a day-to-day basis using Team Foundation Server.
- Developed an Import and Export Utility Generic module for Items, Categories. Using this module, one can export the item/Customer/Category to excel and using the import utility the data from the excel file gets imported into the database.
- Developed the print functionality and Export to PDF module for various templates.
- Created Stored Procedures, Views, User Defined Functions, SSIS packages and Triggers in SQL Server 2008/2005 using SQL Server Management Studio
- Created and maintained multiple Win forms, GUI's and SSIS packages to accommodate business and data requirement using Microsoft Visual Studio.
- Used principles of Normalization to improve the performance. Involved in ETL code using PL/SQL to meet requirements for Extract, transformation, cleansing and loading of data from source to target data structures.
- Used Language Integrated Query (LINQ) and Entity Framework to work with relational objects.
- Created several reports using SSRS report builder.
- Created SQL jobs to import data from CSV/XML files to SQL tables.
- Developed Client specific programs and scripts to produce detailed analysis of data, reports, and data extract using SQL and PL SQL for clinical and financial reports management.
- Gathered requirements for improving the features of the application.
- Performed analysis of the current application to determine the efficiency and economics of implementing the desired changes, per business requirements.
- Actively involved in deploying and configuring the builds on a day-to-day basis using Team Foundation Server (TFS).

- Environment: Microsoft .Net Based Technologies like ASP.Net, C#, MVC 4,5, Razor, IIS, SQL Server, Team Foundation Server, JavaScript, jQuery, Knockout, HTML, CSS, Bootstrap, SSRS

INDIANA STATE UNIVERSITY, IN, USA

September 2014 – December 2014

Food Service Developer (Intern)

- Used model-view-controller (MVC 4) architecture and Entity Framework code first on this project.
- Used .NET MVC Framework 4.0 with AJAX Server Control and toolkit to asynchronously retrieve data from server for a better performance and an increase in interactive animation on web pages.
- Designed User Interface and templates using Adobe Dreamweaver, Bootstrap and Angular JS.
- Used Web Form Controls to create web pages.
- Used Server Side Validate Controls to validate the form fields.
- Used Grid View Controls to display data from the database with paging and sorting.
- Implemented Error Handling using Try-Catch-Finally methodology.
- Used ADO.Net extensively for database interactions using Data Reader, Data Adapter, Data view and Datasets.
- Developed user interface using CSS3, HTML5.
- Used Drupal 7, including custom content types, Features and extensive custom module development.
- Worked on Custom module development both contributed and non-contributed.
- Created PHP/MySQL application server framework for applications.
- Worked on developing menu modules from scratch using PHP.
- Contributed panel schedule and provided numerous patches for DRUPAL Core.
- Worked on customized module development leveraging various themes, form, and views using Drupal 7.
- Worked on developing applications to create sophisticated menus using Microsoft .Net and data grids.
- Worked on developing mobile applications for dining services.

Environment: C#, MVC 4.0, Bootstrap, RAZOR, IIS, SQL Server, Team Foundation Server, JavaScript, AngularJS, jQuery, Knockout, HTML, CSS, Bootstrap, DRUPAL 7, PHP 5.1 & 5.2, CSS, HTML5.

10.3 AI DEVELOPER

Name	Troy D. Loeffler	Positions title	AI Developer
Education / Certifications			
<ul style="list-style-type: none"> • PhD in Computational Chemistry, Louisiana State University, August 2011 - December 2016 • BS in Chemistry and BS in Mathematics, Washington State University • IBM Professional Data Science Certification 			
Patents:			
<ul style="list-style-type: none"> • Automated AI Guided Metastable phase Diagram Generation for materials design. • Monte Carlo Tree Search Optimization for Continuous Action Spaces • Systems and methods for active learning from sparse training data • Systems and methods for generating phase diagrams for metastable material states Systems and methods for hierarchical multi-objective optimization 			
Technical Skills			
<ul style="list-style-type: none"> • Extensive experience using Artificial Intelligence topics like Genetic Algorithms, Monte Carlo Tree Search, Neural Networks, Computer Vision, Generative AI, Active Learning, and Reinforcement Learning. 			

- Experience in the training of Machine Learning models including feature selection, hyper parameter optimization, and data cleaning. Extensive experience with predictive modeling, data visualization, and statistics.
- Direct experience working in C++, SQL, and Python.
- Experience leading small to mid-software development team and delivering products ahead of schedule.
- Experience directly reaching out to potential customers to perform marketing research and user feedback analysis.
- Experience with common machine learning libraries such as Tensorflow, Keras, PyTorch, SkLearn, Numpy, Pandas, Kedro, Hadoop

Professional Experience

Sivananthan Labs, Boilingbrook, IL	April 2023 – Present
Senior AI Developer	
<ul style="list-style-type: none"> • Led innovative AI projects for the Department of Energy (DOE) and Department of Defense (DoD), focusing on cutting-edge AI solutions. • Developed advanced AI platforms integrated into electron microscopes, enabling real-time image processing and predictive analysis through computer vision approaches. • Built generative AI tools for anomaly detection in video data, employing Kedro and Docker for seamless commercial deployment of AI models on servers. • Attended conferences to gather customer feedback and refine product features, improving marketability. • Secured \$2M in additional funding through SBIR initiatives by demonstrating the software's impact and potential. 	
University of Illinois, Chicago, IL	September 2020 – Present
AI Researcher	
<ul style="list-style-type: none"> • Designed and implemented machine learning algorithms in collaboration with DOE and DoD to analyze complex non-linear systems in both soft and hard matter domains. • Authored the Continuous Monte Carlo Tree Search algorithm to optimize irregular surface challenges, achieving breakthrough results. • Developed efficient data pipelines to transfer X-ray experimental data from Argonne Advanced Photon Source to computational clusters for real-time analysis. 	
Argonne National Laboratory, Lemont, IL	March 2017 – September 2020
AI Postdoctoral Associate	
<ul style="list-style-type: none"> • Conducted machine learning research under the mentorship of Dr. Subramanian Sankaranarayanan, specializing in molecular dynamics forcefield fitting. • Designed the Continuous Monte Carlo Tree Search algorithm, culminating in publication in Nature Communications. • Contributed to advancing computational modeling with techniques like genetic algorithms, Monte Carlo Tree Search, and deep learning. • Secured 5 patents (3 approved) and licensed the cMCTS code to multiple companies for optimization challenges. • Published extensively in leading journals, showcasing innovations in machine learning applications. 	

10.4 DATA SCIENTIST

Name	Anny Carella	Positions title	Data Scientist
Education/ Certification			
<ul style="list-style-type: none"> • Master of Science in Business Analytics (MSBA), Emory University, Goizueta Business School 			

- Master of Science in Information Technology, Carnegie Mellon University, Carnegie Institute of Technology

Technical Skills

- **Libraries:** NumPy, SciPy, Pandas, Theano, Caffe, SciKit-learn, Matplotlib, Seaborn, Plotly, TensorFlow, Keras, NLTK, PyTorch, Gensim, Urllib, BeautifulSoup4, PySpark, PyMySQL, SQLAlchemy, MongoDB, sqlite3, Flask, DeepLearning4j, EJML, dplyr, ggplot2, reshape2, tidyr, purrr, readr, Apache, Spark.
- **Artificial Intelligence:** Classification and Regression Trees (CART), Support Vector Machine, Random Forest, Gradient Boosting Machine (GBM), TensorFlow, PCA, Regression, Naïve Bayes
- **Machine Learning Techniques:** Supervised Machine Learning Algorithms (Linear Regression, Logistic Regression, Support Vector Machines, Decision Trees and Random Forests, Naïve Bayes Classifiers, K Nearest Neighbors), Unsupervised Machine Learning Algorithms (K Means Clustering, Gaussian Mixtures, Hidden Markov Models, Auto Encoders), Imbalanced Learning (SMOTE, AdaSyn, NearMiss), Deep Learning Artificial Neural Networks, Machine Perception
- **Analytics:** Data Analysis, Data Mining, Data Visualization, Statistical Analysis, Multivariate Analysis, Stochastic Optimization, Linear Regression, ANOVA, Hypothesis Testing, Forecasting, ARIMA, Sentiment Analysis, Predictive Analysis, Pattern Recognition, Classification, Behavioral Modeling
- **Natural Language Processing:** Processing Document Tokenization, Token Embedding, Word Models, Word2Vec, Fast Text, Bag of Words, TF/IDF, Bert, Elmo, LDA
- **Programming Languages:** Python, R, SQL, Java, MATLAB, and Mathematica
- **Applications:** Machine Language Comprehension, Sentiment Analysis, Predictive Maintenance, Demand Forecasting, Fraud Detection, Client Segmentation, Marketing Analysis, Cloud Analytics in cloud-based platforms (AWS, MS Azure, Google Cloud Platform)
- **Deployment:** Continuous improvement in project processes, workflows, automation, and ongoing learning and achievement
- **Development:** Git, GitHub, GitLab, Bitbucket, SVN, Mercurial, Trello, PyCharm, IntelliJ, Visual Studio, Sublime, JIRA, TFS, Linux
- **Big Data and Cloud Tools:** HDFS, SPARK, Google Cloud Platform, MS Azure Cloud, SQL, NoSQL, Data Warehouse, Data Lake, SWL, HiveQL, AWS (RedShift, Kinesis, EMR, EC2, Lambda)

Professional Experience

Novartis Pharmaceuticals, Sacramento CA Data Scientist/ GenAI Specialist

Mar 2024 – Present

- As a Data Scientist/ GenAI Specialist, designed and implemented an API for seamless access to Large Language Models (LLMs) and vector databases, facilitating rapid retrieval of healthcare insights.
- Leveraging technologies such as LangChain, Hugging Face, Transformers, and OpenAI, delivered key functionalities to support data-driven decision-making in healthcare. Collaborating closely with cross-functional teams and utilizing JIRA for agile project management ensured that the chatbot addressed Novartis's specific industry needs. By integrating various medical and scientific data sources and fine-tuning the model, significantly enhanced the chatbot's accuracy and efficiency, elevating the quality of insights and decision support available to healthcare professionals.

Model Development and Deployment:

- Designed, developed, and deployed generative AI models using frameworks like TensorFlow, PyTorch, or similar platforms.
- Implemented continuous integration and continuous deployment (CI/CD) pipelines to streamline model iteration and updates.

- Utilized cloud platforms like Azure Kubernetes Service (AKS) or Azure Machine Learning for scalable, real-time inference.
- Employed Azure Monitor and Log Analytics for tracking model performance and ensuring high availability.

Data Engineering and Pipelines:

- Designed and implemented scalable data pipelines with Azure services like Azure Data Factory, Azure Databricks, and Azure Synapse Analytics to process, store, and analyze large datasets.
- Utilized Azure Blob Storage for cost-effective storage of extensive healthcare datasets, and Azure SQL for structured data management.
- Applied security best practices, leveraging Azure Key Vault for safeguarding credentials and secrets while ensuring data storage and processing compliance with relevant regulations (e.g., HIPAA).

Natural Language Processing and Machine Learning:

- Developed machine learning models using Python libraries like NumPy, pandas, Scikit-learn, and TensorFlow.
- Implemented workflows for data preprocessing, feature engineering, and model evaluation in Python to create robust and effective models for healthcare applications.
- Utilized Python for interactions with large language models (LLMs), handling natural language processing (NLP) tasks and building custom workflows to support healthcare decision-making.
- Leveraged Langchain to streamline the development of LLM-powered applications, combining components like document loaders, vector stores, and retrievers to create efficient query pipelines that retrieve relevant healthcare insights.
- Integrated Langchain with healthcare databases, external APIs, and cloud services, enhancing the capabilities of LLM-based chatbots to deliver context-aware, domain-specific responses to healthcare challenges.
- Developed modular applications using Langchain's chains, agents, and tools, creating workflows for targeted healthcare problems such as disease diagnosis or drug discovery, and optimizing the chain for real-time medical support.
- Utilized Hugging Face's pretrained models, such as BERT, GPT, and RoBERTa, to tackle NLP problems specific to healthcare, fine-tuning these models with healthcare data to improve their understanding of complex queries and expert advice.
- Applied Hugging Face's Transformer models and NLP pipelines for tasks like text classification, sentiment analysis, and entity recognition in healthcare contexts, supporting decisions based on patient feedback, research papers, and clinical data.
- Trained custom models using Hugging Face's Trainer API and Datasets library, integrating specialized healthcare data to enhance the accuracy of diagnostic tools, treatment recommendations, and drug development.
- Fine-tuned OpenAI's GPT models (e.g., GPT-4) to address healthcare use cases, tailoring responses to specific medical challenges like personalized treatment plans, patient education, and clinical research.
- Used OpenAI models to generate embeddings from medical documents or queries, enabling efficient similarity search and retrieval with vector databases—especially valuable for systems offering rapid medical advice from historical or research data.
- Developed intelligent chatbots with OpenAI's APIs to deliver real-time healthcare advice, integrating them with Langchain and Azure services to offer healthcare professionals comprehensive, context-aware solutions, enhancing efficiency and informed decision-making at scale

Ethical Considerations and Deployment:

- Ensured adherence to ethical standards and compliance with data privacy regulations (e.g., HIPAA) when handling sensitive information or generating content.
- Deployed generative models in production environments and maintained them for performance and scalability, including optimizing inference times and resource usage.
- Presented findings, insights, and recommendations to stakeholders, explaining complex concepts in an understandable manner.
- Participated in continuous learning and development activities, attending workshops and conferences to enhance knowledge and skills in generative AI.
- Conducted exploratory data analysis and experiments to test hypotheses and uncover new opportunities for generative applications.

Mid-American Energy, Chicago, IL

Jun 2023 – Feb 2024

Lead GenAI/ Data Scientist

- As Lead GenAI/ Data Scientist at Mid-American Energy, developed regression models on Azure Cloud and Databricks, integrating essential business factors such as marketing expenditure, macroeconomic trends, seasonality, and competition. By optimizing resource allocation, improved ROI and integrated models with existing systems through Python APIs.
- Additionally, built machine learning models to predict Customer Lifetime Value (CLV) and churn rates, providing actionable insights for customer retention strategies. The role also involved leveraging cloud platforms like AWS, Google Cloud, and Azure to ensure scalable and efficient data handling and model deployment.
- Developed regression models on Azure Cloud and Databricks, incorporating factors such as marketing expenditures, macroeconomic indicators, seasonality, and competitive influences.
- Enhanced marketing strategies by integrating models into existing systems through Python-based APIs.
- Optimized resource allocation to maximize ROI and ensured models were maintained in a scalable cloud environment.
- Regularly updated models to reflect changing market trends, leveraging continuous integration and deployment strategies on Azure.
- Document model architectures, training processes, and evaluation results to ensure reproducibility and facilitate knowledge transfer within the team.
- Ensure adherence to ethical standards and compliance with data privacy regulations when handling sensitive information or generating content.
- Deploy generative models in production environments and maintain them for performance and scalability, including optimizing inference times and resource usage.
- Present findings, insights, and recommendations to stakeholders, explaining complex concepts in an understandable manner.
- Participate in continuous learning and development activities, attending workshops and conferences to enhance knowledge and skills in generative AI.
- Conduct exploratory data analysis and experiments to test hypotheses and uncover new opportunities for generative applications.
- Utilized PowerBI, Snowflake, Databricks, and Azure Cloud for comprehensive data analysis and visualization.
- Worked within the market data division, focusing on segmentation and forecasting to deliver insights that supported customer loyalty efforts for member companies.
- Built machine learning models to predict Customer Lifetime Value (CLV) and churn rates, utilizing survival analysis techniques.
- Analyzed historical transactional data to construct predictive models and applied unsupervised learning to segment customers by behavior and characteristics.

- Leveraged Python, R, SQL, and distributed data processing tools such as Apache Hadoop and Spark.
- Used AWS, Google Cloud, and Azure platforms for efficient data handling, model training, and deployment.
- Developed regression models for CLV, classification models for churn prediction, and clustering algorithms for customer segmentation.
- Improved model performance through feature engineering and tuning, assessing effectiveness with metrics like accuracy, precision, recall, F1 score, RMSE, and silhouette score.
- Design, develop, and implement generative AI models using frameworks such as TensorFlow, PyTorch, or similar platforms.
- Gather and preprocess large datasets to train generative models, ensuring data quality and relevance.
- Stay updated on the latest advancements in generative modeling techniques and incorporate state-of-the-art algorithms into projects.
- Conduct experiments to evaluate model performance, including metrics like accuracy, loss, and generative quality, and refine models based on results.
- Work with cross-functional teams, including data scientists, engineers, and product managers, to understand requirements and develop AI solutions that meet business needs.
- Create applications or tools that leverage generative AI models for practical use cases, such as content generation, image synthesis, or predictive analytics.
- Document model architectures, training processes, and evaluation results to ensure reproducibility and facilitate knowledge transfer within the team.

US Cellular, Chicago IL

Sep 2021 – May 2023

Lead Data Scientist/Machine Learning Engineer

- At US Cellular, developed a custom CNN model in Python using TensorFlow and Keras, achieving 93% accuracy in object recognition and 90% in document processing by leveraging multimodal fusion with an NLP module. This project involved extensive data preprocessing on over 10,000 images and integrated OCR tools like Tesseract and AWS Text Extract to classify complex visual and text data. The solution streamlined image and document classification, reducing false positives by 40% for enhanced operational efficiency.
- Developed, evaluated, and trained a custom convolutional neural network (CNN) in Python using frameworks such as TensorFlow and Keras.
- Utilized model checkpoints, early stopping, and optimizers like Adam to accelerate the training process.
- Applied image resizing, interpolation to a standard size, and generated rotational and other invariances with the Skimage library.
- Employed the CV2 library for reading and rendering video files.
- Collected and pre-processed a dataset of over 10,000 images, encompassing objects in diverse environments with various lighting conditions, angles, and scanned documents of differing quality and resolution.
- Trained and fine-tuned a CNN architecture using TensorFlow and Keras, achieving an initial object recognition accuracy of 85%.
- Developed an NLP module using spaCy to analyse textual descriptions of objects and contexts, generating additional features for the CNN.
- Integrated the NLP module with the CNN through a multimodal fusion approach, enabling the model to learn from both visual and textual data simultaneously.
- Applied the object recognition system to scanned documents, using Tesseract OCR and AWS Text Extract to classify text, tables, and other relevant content.

- Developed a post-processing module utilizing NLP techniques to analyze and interpret extracted text, generating structured data outputs.
- Evaluated the performance of the NLP-enhanced CNN and document processing system on a holdout set, achieving a final accuracy of 93% in object recognition and 90% in document processing, with a 40% reduction in false positives.

Nestle, St Louis, Missouri

Jan 2019– Aug 2021

Data Scientist

- As a Data Scientist at Nestlé, automated data acquisition, modeling, and visualization processes to improve operational efficiency and streamline workflows.
- Provided internal data science consulting to help business partners identify and address challenges through data-driven solutions, supporting projects from ideation to delivery. By integrating diverse data inputs—such as shipment, order, and promotional data—enhanced forecasting models for manufacturing plants, achieving a 10% improvement in accuracy and reducing bias by 5%. Additionally, utilized advanced techniques like PCA, SVM, and various neural networks, leading to significant enhancements in performance, accuracy, precision, and recall rates.
- Automated data acquisition, modeling, and visualization processes to enhance efficiency and simplify workflows.
- Offered internal data science consulting to assist business partners in identifying opportunities and challenges that could be addressed with data-driven solutions, supporting small-scale projects from ideation to execution and delivery.
- Integrated various data inputs (shipment, order, POS, and promotional data) from multiple external sources, including Sales, Marketing, and Operations Planning, to identify potential predictors of customer demand.
- Cleaned and transformed data to prepare datasets for subsequent analysis.
- Developed and improved forecasting models for manufacturing plants and customer accounts using diverse statistical techniques such as regression, ARIMAX, and Exponential Smoothing Methods (ESM), resulting in a 10% improvement in forecast accuracy and a 5% reduction in forecast bias.
- Conducted data preprocessing on Sensor Generated and IoT data.
- Employed Principal Component Analysis (PCA) and feature elimination to maintain classification accuracy above 99% in trained models.
- Implemented Support Vector Machines (SVM) for faster training and reduced resource consumption.
- Developed various neural network architectures, including convolutional and recurrent networks, to handle large feature sets.
- Created K-means clustering and Density-Based Spatial Clustering of Applications with Noise (DBSCAN), as well as mixture methods like the multivariate Gaussian mixture model.
- This project resulted in enhanced performance, accuracy, precision, and recall rates.

HCSC, Richardson TX

Feb 2017 – Dec 2018

Data Scientist

- As a Data Scientist with HCSC, leveraged a robust tech stack including Python, NoSQL, Docker, AWS, and Kubernetes to enhance data analytics and model development. By utilizing libraries such as NumPy, Pandas, and TensorFlow, implemented advanced machine learning techniques, including BERT-based embeddings and various neural network architectures. My focus on natural language processing allowed me to create custom word embeddings using NLTK and Gensim. Additionally, deployed operational models via a RESTful API using Flask, all while adhering to Agile methodologies to ensure timely delivery and iterative improvement.
- Operated within an environment utilizing Python, NoSQL, Docker, AWS, and Kubernetes.

- Engaged with Python libraries such as NumPy, Pandas, SciPy, Matplotlib, Plotly, and Feature Tools for data analysis, cleaning, and feature engineering.
- Utilized NLTK and Gensim for natural language processing tasks like tokenization and for generating custom word embeddings.
- Integrated Python's TensorFlow library for constructing neural network models.
- Implemented embeddings based on BERT.
- Leveraged a variety of models, including Convolutional Neural Networks, Recurrent Neural Networks, LSTM, and Transformers.
- Deployed operational models to a RESTful API using the Python Flask framework and Docker containers.
- Adopted Agile methodologies, including Extreme Programming, Test-Driven Development, and Agile Scrum.

Citizens Bank, Boston, MA

June 2014 – Jan 2017

Data Scientist

- As a Junior Data Scientist at Citizens Bank, developed and integrated logistics and linear regression models tailored to meet various internal requirements. By identifying data patterns through advanced statistical techniques and algorithms, proposed innovative solutions that combined business insights with mathematical concepts. Utilized predictive modeling methods like ARIMA and ETS, along with decision trees and random forests, to validate variables in regression models. My findings were presented weekly to stakeholders, ensuring alignment with business needs, and deployed the final model in a Flask application on AWS, making it accessible via a REST API.
- Developed and integrated logistics and linear regression models, aligning various internal requirements for covariance and variable criteria.
- Identified patterns in data using algorithms and employed experimental and iterative methods to validate results.
- Demonstrated creative thinking and a strong ability to generate and propose innovative solutions to problems by leveraging business insight, mathematical concepts, data models, and statistical analysis.
- Utilized advanced statistical and predictive modeling techniques to construct, maintain, and enhance real-time decision systems using ARIMA, ETS, and Prophet.
- Employed decision trees and random forests to assess the validity of variables used in regression models, incorporating additional techniques such as bagging and boosting (AdaBoost, XGBoost) to enhance these models.
- Presented findings and recommendations to business stakeholders on a weekly basis, incorporating feedback and features in response to the evolving needs of the business within a dynamic social landscape.
- Conducted model evolution across competing groups to identify the best model for further refinement.
- Deployed the final model in a Flask application on AWS, accessible via a REST API.

Hubspot, Cambridge MA

June 2012 – May 2014

Data Analyst

- Collect information from diverse sources, including databases, APIs, and customer relationship management (CRM) systems.
- Cleanse and organize data for analysis, ensuring precision and uniformity.
- Recognize and resolve data quality concerns.
- Apply statistical methods (e.g., descriptive analytics, hypothesis testing, regression techniques) to examine data trends and patterns.

- Create and maintain data models and visual representations (e.g., dashboards, graphs) to effectively communicate results.
- Identify key performance metrics (KPIs) and monitor their performance over time.
- Generate detailed reports that offer actionable insights for stakeholders.
- Work collaboratively with business teams to comprehend their data requirements and develop customized reporting solutions.
- Convert data insights into actionable recommendations for enhancing business processes and strategies.
- Aid in decision-making by delivering data-driven evidence.
- Ensure compliance with data governance standards and regulations (e.g., GDPR, CCPA).
- Safeguard data privacy and security.

10.5 MACHINE LEARNING ENGINEER

Name	Dilip Vummaneni	Positions title	Machine Learning Engineer
Education/ Certifications			
<ul style="list-style-type: none">• Master of Science in Business Analytics, University of North Texas, Dallas.• Bachelor of Technology in Computer Science, K.S.S.E.M, Bengaluru.• Microsoft Certified: Power BI Data Analyst Associate• Oracle Database Foundations Certified Junior Associate• Oracle Cloud Infrastructure 2024 Generative AI Certified Professional• Generative AI Fundamentals - Databricks			
Technical Skills			
<ul style="list-style-type: none">• Data Preprocessing: Data Cleaning, Exploratory Data Analysis (EDA), Initial Data Analysis (IDA)• Machine Learning Techniques: Ensemble Methods (Random Forests), Linear/Logistic Regression, SVMs, XGBoost, Decision Trees, Neural Networks, K-Means, KNN, Naive Bayes• Deep Learning: Recurrent Neural Networks (RNNs), Neural Network Modeling• Predictive Modeling and Statistical Analysis: Regression, Clustering, PCA, A/B Testing, Hypothesis Testing, ANOVA, Time-Series Analysis• NLP Techniques: Tokenization, Lemmatization, Stemming, POS Tagging, Sentiment Analysis• Programming Languages: Python, SQL• Data Science Libraries/Frameworks: Scikit-Learn, Spark, Hive• Data Visualization: Power BI, Tableau, Spotfire• Web Development: Flask, Django• Cloud Platforms: AWS (Amazon SageMaker, Redshift, S3), Azure (Synapse Analytics, Blob Storage, Data Factory)• Database Management: MySQL, PostgreSQL, MongoDB, Azure Cosmos DB, Amazon Aurora, RDS, DynamoDB• ETL and Data Pipelines: Azure Data Factory, Semi-structured/Unstructured Data Handling• Infrastructure as Code (IaC): Terraform, Ansible, Boto3• Generative AI Models: GPT, BERT, LLM, DALL-E• Conceptual Data Models: Process/Data Flow Diagrams, Use Case Diagrams, Class/State Diagrams			
Professional Experience			
Elysium Analytics		01/2023 - Present	
Senior AI/ML Engineer			
<ul style="list-style-type: none">• As an AI/NLP Engineer at Elysium, led the development of an advanced AI-driven platform to automate and enhance the analysis of financial documents, real-time market data, and sentiment			

insights. The platform streamlined investment decision-making processes by integrating state-of-the-art Large Language Models with NLP technologies, delivering faster insights and enabling more informed financial strategies. This innovation significantly improved performance for both analysts and clients.

- Designed and deployed an event-driven financial analytics platform using Amazon Kubernetes Service (EKS), Amazon ECS, AWS Lambda, Amazon S3, and Azure Kubernetes Service (AKS) for container orchestration, optimizing customer spending analysis and scalability while ensuring high availability and fault tolerance.
- Achieved a 30% improvement in model and query efficiency by integrating Vector DB and Pinecone; secured API management via AWS API Gateway for real-time monitoring and logging with AWS CloudWatch and AWS X-Ray for performance insights, while leveraging Azure Application Insights for deep application monitoring.
- Led the integration of GPT and Llama models, boosting sentiment analysis accuracy by 25%; implemented robust monitoring and tracing with Amazon CloudWatch, AWS CloudTrail, AWS GuardDuty, and Azure Security Center to ensure security and operational excellence.
- Utilized Generative Adversarial Networks (GANs) and LangChain to enhance market trend forecasting accuracy; enabled scalable resource allocation using AWS Lambda Auto Scaling, Amazon EC2 Auto Scaling, and Azure Virtual Machine Scale Sets to dynamically adjust compute resources.
- Streamlined CI/CD pipelines with Jenkins, Bitbucket, and MLFlow, integrating with AWS CodePipeline, AWS CodeBuild, AWS CodeDeploy, and Azure DevOps to reduce deployment times by 40% and integration issues by 50%.
- Implemented a Retrieval-Augmented Generation (RAG) model to improve team collaboration, integrating AWS Glue for ETL operations, Amazon Redshift for high-performance data workflows, and Azure Synapse Analytics for scalable data analytics, ensuring seamless data processing and analytics.
- Designed dynamic, cost-efficient cloud architectures leveraging serverless technologies such as AWS Lambda, Amazon API Gateway, Amazon S3, and Azure Functions for scalable and cost-effective storage, with AWS CloudFormation and Azure Resource Manager for infrastructure as code and automation.
- Deployed monitoring frameworks using AWS and Azure services, including Amazon CloudWatch, AWS CloudTrail, AWS Systems Manager, and Azure Monitor, ensuring reliability, performance tracking, and health monitoring of models and infrastructure in production environments.
- Automated resource allocation using AWS Lambda and AWS Auto Scaling, reducing operational latency and optimizing infrastructure costs through Amazon EC2 Spot Instances, Amazon S3 Glacier, AWS Trusted Advisor, and Azure Cost Management for cost optimization and performance best practices.
- Developed analytical dashboards delivering actionable insights to stakeholders using Amazon QuickSight, AWS Glue for data integration, and Power BI for additional visualization, enabling real-time, data-driven decision-making across the organization.
- Enhanced financial operations by analyzing customer spending patterns using Amazon Athena, AWS Redshift Spectrum, Azure Data Lake Analytics, and generating precise market trend forecasts through the application of Amazon SageMaker for machine learning model development and deployment.

Hudl Pvt Ltd

06/2020 - 07/2022

AI/ML Engineer

- As an AI/NLP Engineer at HUDL, spearheaded the development of an AI-powered financial intelligence platform aimed at automating and optimizing the analysis of financial documents, real-time market data, and sentiment from unstructured data sources.

- Leveraged NLP and advanced AI techniques, this platform drove innovation in investment strategies, streamlined client reporting, and enhanced data-driven decision-making processes.
- Implemented cutting-edge deep learning models for sentiment analysis and financial forecasting, improving prediction accuracy by 30%. Additionally, collaborated with cross-functional teams to ensure seamless integration with existing workflows, reducing manual processing time by 40%.
- Designed and deployed an event-driven financial analytics platform using Amazon Kubernetes Service (EKS), Amazon ECS, AWS Lambda, Amazon S3, and Azure Kubernetes Service (AKS) for container orchestration, optimizing customer spending analysis and scalability while ensuring high availability and fault tolerance.
- Achieved a 30% improvement in model and query efficiency by integrating Vector DB and Pinecone; secured API management via AWS API Gateway for real-time monitoring and logging with AWS CloudWatch and AWS X-Ray, complemented by Azure Monitor for additional application monitoring and performance insights.
- Led the integration of GPT and Llama models, boosting sentiment analysis accuracy by 25%; implemented robust monitoring and tracing with Amazon CloudWatch, AWS CloudTrail, AWS GuardDuty, and Azure Security Center for end-to-end security and operational excellence.
- Utilized Generative Adversarial Networks (GANs) and LangChain to enhance market trend forecasting accuracy; enabled scalable resource allocation using AWS Lambda Auto Scaling, Amazon EC2 Auto Scaling, and Azure Virtual Machine Scale Sets to dynamically adjust compute resources.
- Streamlined CI/CD pipelines with Jenkins, Bitbucket, and MLFlow, integrating with AWS CodePipeline, AWS CodeBuild, AWS CodeDeploy, and Azure DevOps for streamlined build, test, and deployment processes, reducing deployment times by 40% and integration issues by 50%.
- Implemented a Retrieval-Augmented Generation (RAG) model to improve team collaboration, integrating AWS Glue for ETL operations, Amazon Redshift for high-performance data workflows, and Azure Synapse Analytics for big data and analytics solutions, ensuring seamless data processing and analytics.
- Designed dynamic, cost-efficient cloud architectures leveraging serverless technologies such as AWS Lambda, Amazon API Gateway, Amazon S3, and Azure Functions for scalable and cost-effective storage, with AWS CloudFormation and Azure Resource Manager for infrastructure as code and automation.
- Deployed monitoring frameworks using AWS and Azure services, including Amazon CloudWatch, AWS CloudTrail, AWS Systems Manager, and Azure Monitor, ensuring reliability, performance tracking, and health monitoring of models and infrastructure in production environments.
- Automated resource allocation using AWS Lambda and AWS Auto Scaling, reducing operational latency and optimizing infrastructure costs through Amazon EC2 Spot Instances, Amazon S3 Glacier, AWS Trusted Advisor for cost optimization, and Azure Cost Management for monitoring and optimizing cloud spend.
- Developed analytical dashboards delivering actionable insights to stakeholders using Amazon QuickSight, AWS Glue for data integration, and Power BI for visualizations, enabling real-time, data-driven decision-making across the organization.
- Enhanced financial operations by analyzing customer spending patterns using Amazon Athena, AWS Redshift Spectrum, Azure Data Lake Analytics, and generating precise market trend forecasts through the application of Amazon SageMaker for machine learning model development and deployment, complemented by Azure Machine Learning for model training and deployment.

Pelican IT	07/2019 - 04/2020
Data Analyst	
<ul style="list-style-type: none"> As a Data Analyst at Pelican IT, contributed to designing and building an analytics and visualization platform tailored for the insurance domain. This platform streamlined the cleaning, extraction, and analysis of historical claims data, enabling the identification of critical key performance indicators (KPIs). Contributed to data cleanup, extraction, and updates using Python and R, leveraging AWS Glue for ETL processes, Amazon S3 for scalable data storage, and Azure Data Factory for orchestrating ETL workflows, performing analysis and research to identify KPIs that optimized insurance claims processing. Assisted in extracting data and developing interactive dashboards using Tableau and Power BI, integrating with Amazon Redshift for high-performance data warehousing and Azure Synapse Analytics for big data analytics to provide actionable insights through various charts, graphs, and filters. Supported the maintenance of Tableau dashboards to track KPIs and identify growth areas, integrating with Amazon RDS for SQL database management and Azure SQL Database for cloud-based relational database management, ensuring continuous visibility and data relevance for stakeholders. Collaborated with cross-functional teams in Agile methodology by participating in sprint meetings and planning, identifying and mitigating risks in projects, while utilizing AWS CodePipeline for version control and continuous delivery, and Azure DevOps for CI/CD pipelines and collaboration. Assisted in creating database objects such as tables, views, procedures, and triggers using SQL queries in MS SQL Server, integrating with Amazon RDS to support and maintain Tableau/Power BI dashboards, and leveraging Azure SQL Database for cloud-based SQL server management. Utilized SQL and data visualization tools to analyze data and convert insights into predictive outcomes, leveraging Amazon Athena for serverless querying of data stored in Amazon S3, and Azure Data Lake Analytics for scalable analytics and big data querying. Optimized query performance using indexing and aggregation within Amazon RDS and Amazon Redshift, and Azure SQL Database and Azure Synapse Analytics, to improve data retrieval efficiency for analysis. 	

10.6 QUALITY ASSURANCE (QA) SPECIALIST

Name	Meghana Yerramilli	Positions title	Quality Assurance (QA) Specialist
Education / Certification			
<ul style="list-style-type: none"> Master of Science, Computer Systems/Networking , Wichita State University (WSU), Wichita, Ks Bachelor in Technology, Computer Science, College of Engineering (GVP), Visakhapatnam, India . 			
Technical Skills			
<ul style="list-style-type: none"> Testing Frameworks: HP Quality Centre, Selenium (IDE, RC, Web Driver), SOAPUI, Gherkins, Cucumber, Specflow, Protractor, UI Automation Languages: C#, .Net, Java Scripting Languages: JavaScript, Meteor JS, Angular JS, Coffee Script Databases: Oracle, Mongo DB, SQL MySQL, DB2, MS SQL Server Other Tools: Kronos, PeopleSoft, Wireshark, GNS3, Git, GitHub, Jira, Bugzilla, Asana, Excel, Project, Microsoft Test Manager, QTP, TFS, TestRail, Test Studio, SoapUI . 			
Professional Experience			

FrontDoor Inc	Mar 2023 – present
Senior Quality Assurance Engineer Lead	
<ul style="list-style-type: none"> Developed and executed automated UI tests using Selenium WebDriver, integrating Java Page Object Model (POM) to enhance maintainability and modularity of test scripts. Enhanced the test automation framework by increasing reusability and modularity, integrating Maven and TestNG for efficient build management and parallel test execution. Debugged critical issues using log analysis tools (e.g., Splunk) to identify the cause of issues and determine appropriate fixes, developing effective mitigation plans. Authored and maintained the automation architecture document for both UI and API automation, outlining best practices and ensuring alignment with QA and development standards for test automation using TestRail. Optimized automation test suites by implementing parallel execution using Lambda, improving efficiency and reducing execution time. Led cross-team efforts for new feature releases, ensuring end-to-end quality and reliability of all features across cross-functional teams. Conducted regression testing using UI automation to ensure the stability and functionality of existing features across new releases. Drove continuous integration/continuous deployment (CI/CD) automation using automation for regression testing by integrating tests with GitLab and Lambda, ensuring quick feedback loops, improved efficiency in the delivery pipeline, and generating reports in TestRail. 	
Populus – General Motors	Jan 2023 – Feb 2023
Senior QA engineer	
<ul style="list-style-type: none"> Leveraged Behavior-Driven Development (BDD) with Cucumber to design and implement test strategies tailored to user flows and feature sets. Automated complex user scenarios using Playwright with TypeScript across web and mobile platforms, developing reusable testing components for both UI and API layers. Extended the automation framework for web testing by integrating it with Azure DevOps CI/CD pipelines, optimizing regression testing workflows and improving deployment efficiency. Executed API tests using Playwright in BDD Cucumber format, ensuring comprehensive API test coverage aligned with BDD principles. Collected and analyzed quality metrics (test coverage, pass rates, performance metrics) through custom dashboards, providing actionable insights for stakeholders to make informed decisions. Participated in technical discussions and debugging sessions with development teams, addressing issues related to UI responsiveness, API stability, and environmental configurations. Supported test environment setup and troubleshooting, ensuring consistency between testing and production environments for smooth and reliable test executions. 	
Kognitiv	Oct 2017 – Nov 2022
Senior Quality Assurance Engineer (Newark, DE)	
<ul style="list-style-type: none"> Develop and Lead QA efforts to build Automation scripts for User Interface (UI), high scale angular applications using Protractor and JavaScript Responsible for maintaining Selenium Web tests UI Automation using C# Nunit framework with Page object Model design pattern Working with Functionize, a smart test tool based on AI and machine learning technology, to create and maintain test suites for a new version User Interface Kognitiv Loyalty Platform. Build and maintain automated test infrastructure to validate all aspects of the products Web Services using Specflow cucumber implementation in Gherkin syntax for test scenario and Nunit , C# code for step definition Responsible for manually testing Web Services and REST API's using tools like SOAPUI, PostMan. 	

<ul style="list-style-type: none"> Evaluate Product functionality and create test strategies, test cases covering integration and end user scenarios. Create moderately complex code/scripts to test software systems and build test infrastructure as necessary for functional areas of Loyalty Platform of Kognitiv. Automated the performance testing of various API calls on different database instances by creating JMeter test suites. Contribution to the development and execution of automation suites within the CI/CD pipeline using Azure DevOps and monitor them Managed pre-release Regression practices and processes Work collaboratively with software development team and product support teams using distribute version control and "ticketed" support systems JIRA in a Scrum, Agile, Scrumban project management frameworks in and Xray for test case management. Participate in an Agile Software Development process delivering a new product release to all clients every six to eight (6 – 8) weeks 	
Department of Juvenile Justice QA Tester (Columbia SC)	Dec 2016 – Oct 2017
<ul style="list-style-type: none"> Design, analysis, regression testing, functional testing, debugging, and maintenance techniques and practices on Asp.Net and C# based web applications, Web API testing using Postman. Working knowledge on Database Design and implementation, implement basic SQL statements, T-SQL to retrieve data to test the application Understanding user requirements, functional specifications, and perform QA testing prior to release. Creating test plan, test cases and execute them to verify the functionality of the software systems. Collaborates with senior developers across development process, production, QA. Test Juvenile Justice Management System Application by creating test cases, test scripts by reviewing the requirements. 	
SNT Media- Ennovar Front End Developer -WSU (Graduate research assistant)	March 2015- May 2016
<ul style="list-style-type: none"> Designing the UI architecture, interface, and interaction flow of web. Assist team in the area of design standards and user interface innovations. Parse generated XML output into the front-end interface using a HTML, CSS3, JavaScript framework such as MeteorJS. Build responsive design, handle page navigation and turn mock-ups into actual web pages quickly using HTML5, LESS (CSS Pre-processor), API's, JSON data and according to design specs. Write and maintain reusable code. Perform testing and QA at all stages. Collaborate daily with writers, data scientists and other developers across the full software development lifecycle. Websites for developed – “Joyfullhome.com”, “Hoopsloyal.com”, “Investkit.com” Database Experience creating SQL queries to retrieve data from databases using MongoDB 	
TATA Consulting Services(Chennai, India) Software Engineer	May 2013- Dec 2014
<ul style="list-style-type: none"> Proficiency in manual testing, and Knowledge on agile/scrum software development process, Web based applications, QA methodologies, Software quality Assurance (SQA), SDLC. Tested Work Force Management project on timekeeping and HR systems (KRONOS Time & Attendance, Scheduling and/or PeopleSoft – HCM, Accounting, Payroll) Good working knowledge of Basic SQL queries to retrieve data. Authored test plans and test cases based on the software design and functionality requirements, which ensuring thorough testing of the product and adherence to design requirements. 	

- Responsible for helping test a variety of data and assisting testing a related product when necessary, verification and validation.
- Creation of specific product test plans, test suites, test scenarios, and test strategies that span a product's lifecycle. Reviewing test scenarios and test cases, executing test cases. Knowledge on Defect tracking, Defect Management and use of Bugzilla.
- Smoke, Integrated System Testing, data verification, UI testing and User Acceptance Testing (UAT), Complex Functional, Integration, Regression, b tests, security testing, Performance and Load Testing.
- Working experience on HP Quality Centre, JIRA, Agile Methodologies, Testing Product Management Trained on Automation, Automation Testing Tool (Selenium)

10.7 UI/UX DESIGNER

Name	Adilene Lopez	Positions title	UX/UI Designer
Education / Certifications			
<ul style="list-style-type: none">UX/UI Foundations, AvocademyBachelor of Science in Justice Studies, San Jose State UniversityAdministration of Justice, Mission College - Associate in Science for Transfer			
Technical Skills			
<ul style="list-style-type: none">Research: User Experience Design, Design Research, User Research, User Stories, User Flows, Personas, Site Mapping, Information Architecture, Data Analysis, Competitive Analysis, Usability EvaluationDesign: User Interface Design, Mobile App Design, Web Design, Design Thinking, Interaction Design, Design Composition, Style Guide, Typography, Wireframes, Ideation, Prototypes, User Testing, Mockups, Usability TestingToolkit: Figma, Canva, Photoshop, Adobe Creative Suite, Microsoft Suite, SlackSoft Skills: Empathy, Communication, Attention to Detail, Curiosity, Collaboration, Adaptability, Critical Thinking, Problem-Solving, Creativity, High Motivation, User Advocacy, Time Management, Leadership, Analytical Thinking			
Professional Experience			
Helio.AI		April 2024 - Present	
UX/UI Designer - Contract Designer			
<ul style="list-style-type: none">Redesign an AI-powered B2B HR web application with a remote agile team, enhancing user interface and experience to expedite the recruitment process, improve user engagement, and streamline workflow efficiency.Apply UX/UI best practices to align the design with company objectives, enhancing the unique value proposition in a competitive HR market by integrating AI technology to create intuitive interfaces on the company's landing page.Conduct research, including competitive analysis, to gain an understanding of the company's improvement needs, ensuring a user-centered design that enhances user satisfaction and supports business success.Develop prototypes and developer-ready handoff files, including high-fidelity screens with annotated spacing, component use, and animations, to ensure a cohesive and impactful design strategy for the final product.			
Food As Content		July 2023 - May 2024	
UX/UI Designer - Contract Designer,			
<ul style="list-style-type: none">Redesign website and mobile interfaces for a B2C-focused creative agency specializing in food and sustainability, applying user-centered design principles to enhance functionality, aesthetics, and solving user experience challenges.			

<ul style="list-style-type: none"> • Manage design assets and implement standardized best UX/UI best practices to ensure consistency across interfaces, improving team efficiency and resulting in streamlined workflows and cohesive design outcomes. • Prepare prototypes and annotate files for developer handoff, ensuring a smooth transition from design to implementation and maintaining design integrity throughout the development process. • Conduct a comprehensive competitive analysis of the company's competitors, identifying notable features and areas for improvement, and integrating competitor strengths to create a competitive and impactful online presence. 	
<p>International Rescue Committee Immigration Legal Assistant - San Jose, CA</p> <ul style="list-style-type: none"> • Facilitate immigration applications, leveraging user-centric strategies to optimize document application processes for USCIS benefits; ensure seamless client experiences by responding promptly to inquiries with USCIS and DOS. • Enhance client service through meticulous management of USCIS and DOS correspondence; maintain detailed, accurate client files and case notes, utilizing data-driven approaches to meet rigorous reporting deadlines. • Represent the organization in client and community interactions with a focus on user experience, managing communications, and event logistics; maintain high standards of confidentiality, ethics, and compliance. • Manage additions help convey a modern, efficient, and user-focused approach to handling electoral processes, underscoring the importance of clear, accessible, and responsive design in public service tasks. 	<p>December 2022 - November 2024</p>
<p>County of Santa Clara Office Election Worker II - San Jose, CA,</p> <ul style="list-style-type: none"> • Collaborate with election teams to enhance voting protocols using user experience strategies, focusing on efficient volunteer recruitment, seamless ballot processing, and maintaining secure digital records to ensure election integrity. • Oversee signature verification processes for petitions and ballots, applying user interface principles to differentiate authentic from fraudulent entries efficiently and to escalate questionable cases for further analysis. • Conduct detailed verifications of over 10,000 petitioners with 90% accuracy, manage voter registration and ensure ADA compliance, emphasizing inclusive design to improve accessibility and user engagement. 	<p>April 2022 - December 2022</p>
<p>Starbucks Barista - San Jose, CA,</p> <ul style="list-style-type: none"> • Excel in crafting over 100 unique Starbucks beverage recipes daily, adhering to high standards for taste and presentation while managing high-volume orders with exceptional accuracy. • Initiate and lead the certification of over 15 new baristas through Starbucks' Barista Certification process, enhancing product knowledge and conducting personalized 1:1 tutoring that increased retention rates by 87%. • Navigate Starbucks' menu to offer customized drink solutions that cater to individual customer preferences, consistently earning positive feedback for outstanding customer service and contributing to a loyal customer base. 	<p>February 2020 - December 2022</p>
<p>Securitas Security Services Inc Human Resource/Payroll Specialist - Hilo, HI,</p> <ul style="list-style-type: none"> • Oversee pre-employment verifications, including I-9 and background checks, ensuring compliance with regulations and reducing organizational risk while managing exit interviews and termination processes for workforce continuity. 	<p>June 2017 - January 2019</p>

<ul style="list-style-type: none"> Implement strategic measures to cut contract overtime costs by 40%, enhancing efficiency through talent pipeline development, optimal staffing, and improved workforce planning. Manage weekly payroll for over 40 accounts and 200+ employees using SAFES software, ensuring accurate processing, addressing discrepancies, and maintaining clear communication with finance departments. 	
NASA Ames Research Center	April 2016 - August 2016
Event Manager - Moffett Field, CA,	
<ul style="list-style-type: none"> Supervise on-site logistics at the NASA Ames Research Center, overseeing event setup, coordination, and execution while ensuring attendee satisfaction and compliance with safety protocols. Serve as the primary liaison with clients and suppliers, negotiating contracts, handling event logistics, and managing risks to ensure successful event delivery, bolstered by strong relationships and effective coordination. Drive client retention by organizing over 30 high-profile events, including the 2016 Administrators Agency Awards, meeting contractual obligations through meticulous communication, budget management, and event day coordination. 	
NASA Ames Research Center	February 2013 - April 2016
Executive Assistant - Moffett Field, CA	
<ul style="list-style-type: none"> Lead project management team for SpaceBar and Grill, managing all project facets from planning to execution, including budget oversight and vendor coordination, while ensuring compliance with quality standards. Implement tracking processes to monitor and analyze bar performance and sales, identifying improvement opportunities to boost efficiency and enhance the customer experience. Collaborate with executive leadership at NASA Ames to standardize policies and practices, ensure regulatory compliance, and provide high-level administrative support to facilitate operations and strategic initiative execution. 	

10.8 DESIGNER LEAD

Name	Shubhangi K	Positions title	Designer Lead
Education / Certification			
<ul style="list-style-type: none"> Master of Science in Computer Science, Eastern Michigan University, MI Bachelor of Technology in Computer Science, Amrita University, India 			
Technical Skills			
<ul style="list-style-type: none"> Web Technologies: HTML, HTML5, XML, CSS, CSS3, Bootstrap, JavaScript, jQuery, AJAX, JSP, DOM, DOJO, SASS, Responsive Web Design: IDE, HTML Editor: WebStorm, Notepad++, Adobe Dreamweaver, Eclipse, NetBeans, RAD, Visual Studio Web Servers: Apache Tomcat 5.5/6.0/7.0, WebSphere 5.0, JBOSS 2.x/3.x JavaScript Libraries: jQuery UI, Angular 2/6/7/8/9/10/13/16/19, React JS, Node JS, Material IO, Redux, Vue JS Database: MySQL, Oracle, SQL server, Mongo DB, Postgres Operating Systems: Windows, UNIX, LINUX, Mac UX&UI Tools: Figma, Adobe XD, Sketch, InVision, Zeplin, Illustrator, Photoshop, Adobe suite, Miro, paper wireframes, wireframes in low and high fidelity, prototypes, information architecture, design systems, Interviews preparation of materials, personas, user journey map, user flow maps, heuristic evaluation, Design thinking Project Management and Version Control: Jira, Trello, Confluence, Slack, MS Teams, GIT, Azure DevOps, SVN 			

Professional Experience

Aramark, Blue Bell, PA

March 2023 –Present

Lead UI/UX Developer

- Developed an interactive, versatile platform for customer order management to improve effectiveness in delivering. To ensure correctness of inventory, all presented data is synchronized with the backend database on every new query using given backend APIs. Managers can evaluate the order processing times, adding events and catering heads can perform actions like placing the orders, updating the status, etc. With this system, we raised client satisfaction and expanded sales by around 7% by extending food catering services to more arenas, universities and organizations. This ReactJS web application built with JSX includes React nesting components, databinding, forms, routers, and Virtual DOM manipulations with redux architecture.
- Lead the team, established and managed the Problem statement, interviews, ideation, interaction, writing and visual design for the site and implemented with responsive capability.
- Involved from scratch to launch of project, including ideation and conceptualization, information architecture, and the creation of future solutions, developing creative business presentations for different goals, such as pitching, kickoff, or consulting, to define the scenarios and pain points, a journey map, and blueprints to understand the user personas.
- Used React 18 for faster templating, developing reusable components and creating interactive UI's using One-way data flow, Virtual DOM, JSX, React Native concepts and building components library, including Slide-View, panels, and Table Grid in React UI.
- Built reusable components and utilized Recharts and Material UI to build various components like table, line chart, button, pagination and histograms to construct the data management application. Utilized React-Hooks to update charts based on display options automatically. Also followed responsive design to dynamically display these tables and charts correctly on both mobile and desktop devices.
- Configured Webpack.js to execute linters, magnifiers, pre/post-processors (e.g. Babel.js), tests, transpilers and ensure compatibility with most browsers and platforms (e.g. IE, Firefox, Edge, Safari, Mac and Chrome).
- Implemented a dashboard that displays summaries and updated these data periodically using AJAX.
- Managed states of data management interface like target time period and display options using React-Redux thunk.
- Created reusable React components and implemented Redux Pattern into the solution to maintain the stable and always updated Application state. Implemented the Drag and Drop functionality using React-Draggable.
- Maintained states in the stores and dispatched the actions using Redux.
- Realized functions and behaviors of the web and fetched data from the database using Promise and asynchronous functions within JavaScript and ES6 properties.
- Applied security features such as Authentication & Authorization, Windows/ Forms-based, Authorizing Users and Roles, and used security protocols like OAuth 2.0, SAML, OIDC and JWT tokens.
- Controlled the triggering of events using JavaScript, like switch between different time intervals and view types.
- Developed web API using Node.js and hosted them on multiple load balanced API instances using microservices and Docker.
- Used Git for version control and best practices for handling pre-commit hooks and followed Agile methodology during the development, Kanban board to track and report progress.

- Worked with Jasmine unit test framework to write unit tests for JavaScript code and performed automatic UI testing using Puppeteer.
- Negotiated budgets with clients and suppliers, organized workflows, administered budget with suppliers and handled client relationships, developed interactive digital products and created corporate presentations.
- Created sprint plans and conducted retrospective and backlog refinement meetings, made meeting minutes for the team, maintained error logs and documented all change requests.
- Environment: JavaScript, ES6, AJAX, JSON, CSS3, HTML5, Node JS, React 18, React Hooks, Redux, Redux-Thunk, Recharts.js, Webpack.js, Babel.js, MongoDB 7, TypeScript, MVC pattern, Jasmine, Puppeteer, Git, Agile, Docker, OAuth 2.0, JWT tokens, SAML

Johnson & Johnson, Cherry Hill, NJ
2022

Jan 2021 – March

Sr. UI/UX Developer

- Leverage enterprise pattern and architecture as the standard for content, design, and content management. Move to a web- content centric model and away from a PDF document library model. Implement Enterprise Digital Asset Management (DAM) tool. The DAM will be the documents repository for each Line of Business. Migrate all content and documents currently hosted on the secure Provider-Self-Service portals (PSS) (content from 14 PSS portals, 15 Advantage PSS sites, and 20 public provider portals) into one application, thus removing the need of secure PSS portals for hosting provider related content and documents. The ability to work with data that various API's return and manage large amounts of shifting data is critical to create user interfaces that display clinical research data. Building these capabilities in-house supports long range J&J strategy to grow and establish stand-alone management and to be sold independently.
- Responsibilities:
- Gathered high level requirements from stake holders located and developed scope along with the PM of the project for the implementation.
- Mapped 'Dealer Reserve Pricing Admin System Services' for pharma process using MS Visio. Also created Use Case Diagrams, Activity Diagrams, Sequence Diagrams and ER Diagrams in MS Visio.
- Conducted weekly meetings for deciding and reporting on the Policies and Procedures to be followed.
- Analyzed and prioritized user and business requirements as system requirements that must be included while developing the software.
- Performed the Risk Assessment, requirement analysis, impact analysis and documented the requirements, created and managed project templates, use-case project templates, requirement types and trace-ability relationships using Rational Requisite Pro.
- Planned and defined system requirements to Use Case, Use Case Scenario and Use Case Narrative using the UML methodologies. Create detailed wireframes for all pages.
- Developed a database on MS Access for the company to keep track of the expenses for various phases of the project.
- Facilitated Joint Application Development (JAD) sessions with management, SME to gather, synthesize and prioritize requirements using interviews, document analysis, requirements workshop and surveys other stakeholders for open and pending issues and address them upfront.
- Utilized Search Engine Optimization (SEO) techniques in designing web contents.
- Used Angular APIs like @angular/http [For making HTTP requests], @angular/common [Common core things including form validation], @angular/router [Routing for our entire app]

- Worked on Angular promises and services, templates, like writing inline template/ external template, {{ }} for interpolation, [] for property binding, () for event binding, # for variable declaration, * for structural directives using Typescript.
- Scheduled meetings with developers, system analyst and testers to collaborate resource allocation and project completion using MS Project. Identified and clearly functional issues and supported IT development staff throughout the design, development, testing, and implementation phases of the software development life cycle.
- Assisted in writing SQL Queries as a part of Backend Testing.
- Addressed vulnerabilities in accordance with OWASP standards. Added OAUTH 2.0 and utilized security assessment tools such as Fortify Scan, App Scan and Web Inspect.
- Authored progress and completion reports, which were then submitted to project management on a weekly basis.
- Developed strategies with Quality Assurance group to implement Test Cases in Mercury Test Director and performed Automated and Manual Black box testing using Mercury's Win Runner.
- Performed User Acceptance testing (UAT) and documented results.
- Trained users team on new processes and operational procedures.
- Environment: IBM Web sphere 9, Visual Studio 2022/2019, MS Excel, Microsoft Visio 2021, PL SQL, MS SQL Server 2019, Oracle9i, Unix, WinNT, Win Runner & Test Director, Angular 13, OAuth 2.0

PMHCC, Philadelphia, PA (City of Philadelphia)

April 2019 – Dec 2020

Sr. UI/UX Developer

- Collaborated with back-end teams to integrate user-facing elements with server-side logic, implementing automated testing platforms, and optimizing components for maximum performance. Adept at identifying and resolving performance and scalability issues, staying up to date with emerging technologies and frameworks, and reducing development time for new projects.
- Worked on Member Medical Aid Digital portal in on boarding different features that are used by multiple clients. Worked in designing, developing, and testing the web application by using HTML5, CSS3, SASS, LESS, Bootstrap and AngularJS, JavaScript, ES6, RESTful service and built high-quality, scalable, and reusable components and Front-end solution.
- Developed the components from scratch using Angular 8.
- Written RXJS type of programming using RXJS s observables and RXJS operators like map and filter.
- Utilized RXJS for implementing reactive programming paradigms in JavaScript applications.
- Used a wide range of operators provided by RXJS to transform, filter, combine, and manage observables effectively.
- Tested RXJS observables using utilities provided by the library, including marbles testing, to ensure the correctness and reliability of asynchronous data streams.
- Interacted with multidisciplinary teams such as strategy, research, development, and stakeholders to define the user stories or user flow to start or define a project.
- Followed Agile/Scrum methodology of software development which satisfies the Customer through early and continuous delivery of valuable software.
- Involved in developing features such as registration, login, displaying all the prescriptions, patient data, funding data, payment section and confirmation page.
- Wrote application-level code to add functionality to the perform client-side validation using JavaScript.
- Worked in designing the CSS templates

- Extensively used CSS for use in all pages on the website working with CSS Background, positioning, text, border, margin, padding, and table integrated with RWD (Responsive Web Design) to apply layout styles for varying screen sizes and pixels.
- Refined user interfaces, providing feedback on feasibility and suggesting improvements for a better user experience.
- Worked with WEB APIs to make calls to the web services using URLs, which would perform GET, PUT, POST and DELETE operations on the server, verifying the API response in Swagger and testing APIs in Postman.
- Used Node Package Manage (NPM) as package manager for JavaScript dependencies, Gulp as the task runner, which handles template cache and helps in minifying code.
- Developed cross-browser/platform HTML5, CSS3, and JavaScript to match design specs for complex page layouts while adhering to code standards.
- Debugged and logged using Chrome developer tools, configured test environment using Karma and wrote unit test using Jasmine.
- Participated with SQA team in bug thrashing sessions to discuss and resolve bugs that were reported in JIRA.
- Used GIT for Version Control of code for incremental development.
- Followed CI/CD principles for Deploying applications in prod using Octopus, team city and Jenkins, SonarQube.
- Participating in the Sprint Planning and User Story Grooming sessions and suggesting can-do and cannot-do in each Sprint and estimating sprint timelines.

Environment: HTML 4.0/5, JavaScript, CSS3, AJAX, Angular 8, GIT, Node JS, W3C, JSON, DOM, Gulp, REST Services, JSP 1.2, Responsive Web Design, AWS and Windows, Swagger, Postman, Octopus, CI/CD

Temple University, Philadelphia, PA
UI/UX Developer

Jan 2017 – March 2018

- Worked for Institutional Research and Assessment department under the Administrative Office of Provost in maintaining the University's website to update changing data very semester and develop new portals and web pages used by different schools and departments in Temple University. Displaying trend in data for enrollment etc. as tables, line charts, histograms on UI pages Using charting toolkits and Tableau, and to implement a clear and concise user interface. Staff and students use portal 24x7. So, load balancing usage turnover for the platform to remain open constantly and in continuous maintenance has been one of the key targets.
- Served as liaison between administrative office and all the schools and departments in Temple University.
- Responsible for creating efficient design and developing User Interaction screens using HTML5, CSS3, Angular 6, JavaScript, jQuery AJAX and JSON. Used AJAX calls with jQuery and JSON for faster and impulsive responses.
- Done the design, development and testing phases of Software Development using AGILE methodology and Test- Driven Development (TDD).
- Enhanced application by building new components in Angular 6 and Typescript with a REST wrapper using Component based architecture around the existing backend java services as well as various enterprise web services integration.
- Wrote complex SQL queries with performance and fine tuning of data tables, to retrieve data related to enrollment and created charts and interactive in Tableau, D3.js, Highcharts.js for trend analysis from semester to semester and integrated the charts in UI pages on the website, empowering data-driven decision-making.
- Prepared data and forms for Fact books and IPEDS collection to submit university standard data to the state.

- Prepared interactive and responsive survey forms and questionnaire that needs to be filled in by all staff and students at the end of each semester and charted and displayed that data as well.
- Included accessibility measures using AIRA rules and standards to make the website accessible by disability people as well.
- Extensively worked with making calls to APIs to fetch the data from the backend as JSON response and parse it on the UI for DOM/CSS manipulation.
- Developed Http requests using observables to communicate between server and client.
- Used Angular-CLI for initializing and for project setup with scaffolding features. Created custom pipes to format the data before displaying it to the user and updated the application from the old version of Angular to Angular 6.
- Developed automated IBM Cognos reports that run weekly and monthly which are automatically sent out to all administrative departments to keep track of the weekly enrollments, 2-Year, 4-year retention rates, feedback on classes, international student data, funding etc.
- Worked on AngularJS forms like Template Driven forms and Modern Driven (Reactive) forms to perform form validations both on server and client side. Also implemented AngularJS component router for navigation, components, pipes and injectables. Created custom directives to extend the functionality of HTML5.
- Used Selectors, Events, Ajax and DOM manipulation using components in Angular for updating content on DOM nodes.
- Used TypeScript to write the Angular Components, Modules, Services, and Models
- Used Angular 2 routing and configured the routes to allow seamless navigation.
- Implemented form validations using Angular 2 Template-driven and Reactive Forms.
- Attended the daily standups as part of Agile and communicating assigned user story updates and discussing any issues with the team upfront.

Environment: HTML, CSS, JavaScript, Angular 6, Type Script, Bootstrap, React, AWS, jQuery, JSP (Java Server Pages), REST, Angular CLI, Grunt, React, Gulp, Jenkins, AIRA, Tableau

Meijer, Troy, MI

Jan 2016 – Dec 2016

UI/UX Developer

- Designed Graphical User Interface (GUI) for landing pages and implemented Auto Complete/Auto Suggest functionality using AJAX, DHTML, CSS, JSF, jQuery and JavaScript, JSON along with Web Service calls. Injected jQuery plugins (Validator, Drag and Drop, AutoComplete).
- Wrote, modified and maintained programming code and scripting according to established standards of OOP's using concepts like inheritance, polymorphism and dependency injection.
- Developed new front end from the ground up and demonstrated modern web architecture using advanced JavaScript frameworks and libraries like AngularJS, Ember JS, Responsive web design (RWD) and API calls.
- Used Axios with Restful web Services to integrate server side to client side and handle HTTP requests.
- Used Cypress for automatically reloading data and making changes to the test.
- Applied JavaScript tasks runner like Gulp and Grunt to perform unit test, code minify and uglify, compass for Sass style sheet language Grunt to compile the Sass files to single CSS file.
- Developed and maintained a reusable component library based on Figma design systems, ensuring consistency across the application with design vision.
- Hooked the OnInit Lifecycle Methods into the Angular Components and Directives implemented Form Validation in the Angular Application.
- Used NPM for installing required node modules and other published Angular NPM modules.
- Used functional libraries like Material-UI to manipulate the styles involved in business logic.

- Implemented a robust customer management module utilizing Java EE technologies such as Servlets and JSP, integrated with MongoDB to securely store and retrieve customer information in real-time, facilitating seamless account management and personalized services.
- Extensively used Ag-Grid Community 18.1 and 22.1 with pagination, Export to CSV, Excel and Sorting to reuse across application. Used Ag-grid Library for developing Data Grids.
- Use JSX, Node, NPM, JavaScript, ES6 Fundamentals to shape, form, and resolve day to day web app needs.
- Migrate content from Old Share Point Sites using CSS-SASS for each market,
- Used integration tools such as Jenkins understanding the concepts of continuous integration using tool Jenkins and fixing the bugs quickly encountered in continuous builds.
- Wrote unit tests using Jasmine, Karma and Enzyme for mocking functions and performed automation using task runners ensuring at least 80% code coverage for code and branches.
- Worked with branding and business image consulting team to retouch advertising ads for social media and propose ideas for marketing solutions.
- Automated testing and build process using Docker setup for prod and dev environments.
- Maintained the user accounts (IAM), RDS, Route 53, VPC, RDB, Dynamo DB, SES, SQS and SNS services in AWS cloud. Configured various performance metrics using AWS Cloud watch & Cloud Trial.
- Used Jira for user story tracking processes and streamlining agile planning.

Environment: Flex, Node JS, Express JS, JavaScript, HTML5, SAAS, CSS3, jQuery, JSON, Bootstrap, AJAX, WebDriver, GIT, Grunt, Agile development, Jira, AWS, Mongo DB, Cypress, Enzyme, Jenkins, Docker, Kubernetes, Angular JS, NPM

Infosys, Bangalore, India

Jan 2014–June 2014

Web Developer

- Created prototypes and wireframes in low and high fidelity to define navigation and information layout, analysis, and testing with users.
- Involved in complete SDLC - Requirement Analysis, Development, System and Integration Testing and Deployment of the react native app.
- Designed web pages using HTML 5, CSS3, JavaScript, Bootstrap, SASS, LESS, React.JS, Redux, Flex, Mongo DB.
- Worked on React JS Virtual Dom and React views, rendering using components which contains additional components called custom HTML tags. Enhanced the React Observables with Redux, React-router and Redux-thunk.
- Designed CSS templates for use in all pages on the website working with CSS Background, positioning, text, border, margin, padding, and table.
- Responsible for troubleshooting the logs in the AWS cloud Watch in S3 buckets, Route 53.
- Designed dynamic and multi-browser compatible pages using HTML, CSS, AngularJS and JavaScript.
- Implemented various screens for the front end using React.JS and used various predefined components from NPM (Node Package Manager) and redux library.
- Worked on stable and reusable React JS components, stand-alone functions, Forms, Events, Keys, Router, Animations, Flux concept and templating for faster compilation.
- Used Aws S3 for storing and retrieving static content, AWS Cloud Front for improving latency.
- Used Bootstrap components like dropdown menus, navigation bar, alerts, and labels.
- Used Redux Middleware and Redux Sagas to handle asynchronous events, Redux-Promise in application to retrieve data from Back-End and to also perform RESTFUL services and API calls.
- Developed Single Pages Application using React Async Await, Next JS and React Router.

- Implemented a GraphQL API to improve data fetching efficiency, reducing over-fetching and under-fetching issues.
- Used React-Autocomplete for creating google map's location search on the webpage.
- Applied strong design aesthetics for typography, Usability concepts, layout, branding, representing content and data in wire frames, and web user interface.
- Converted business requirements into UML diagrams using Rational Rose and MS Visio and managing and tracking those requirements.
- Developed SQL queries to perform insert, update or delete operation on MySQL database and fine-tuned them.
- Used Node.JS, and MVC Frameworks in the development of the web application.

Environment: HTML5, CSS3, Bootstrap, SASS, LESS, Java Script, Node JS, React JS, Redux, MySQL, Amazon Web Services (AWS), Bootstrap, JSP, MS Office, Quality Center, GraphQL, Jasmine, GitHub, and Jenkins.

10.9 AI/SYSTEM ARCHITECT

Name	Russ Williams	Positions title	AI/System Architect
Education / Certification			
<ul style="list-style-type: none">• Bachelor of Science in Computer Science, University of Maryland• Microsoft Certified Azure Solutions Architect Expert.• Microsoft Certified Azure Developer Associate• Microsoft Specialist Architecting Microsoft Azure Solutions			
Technical Skills			
<ul style="list-style-type: none">• Expertise in Conversational AI and chatbot solutions (LangChain, Power Virtual Agents, etc.)• Proficiency in Cloud technologies and services (Azure, AWS)• In-depth knowledge of Natural Language Processing (NLP)• Development experience with frameworks such as Microsoft Bot Framework, Xamarin, and .NET• Skilled in mobile application development and low-code platforms like Power Apps• Strong leadership in technical solution architecture and customer engagements			
Professional Experience			
RCCL		April 2023 – July 2023	
Conversational AI Architect			
<ul style="list-style-type: none">• Designed, developed, and evaluated multiple chatbot Proof-of-Concepts (POCs) including LangChain-based chatbot, Power Virtual Agents with boosted conversations, and Retrieval-Augmented Generation (RAG) chatbots using Lucidworks Fusion.• Integrated chatbots with LivePerson’s contact center capabilities, enabling seamless escalation from chatbot interactions to human agents in Royal Caribbean's call centers.• Collaborated with cross-functional teams to identify requirements, develop solutions, and deploy conversational AI tools, driving improved customer engagement.			
Microsoft		August 2017 – April 2023	
Cloud Solution Architect			
<ul style="list-style-type: none">• Delivered technical strategy briefings, architectural design sessions, and hands-on development of POCs across multiple Azure services, including Azure App Services, API Management, Cosmos DB, and Azure Cognitive Services.• Championed conversational AI adoption by showcasing its integration into business workflows, enabling efficient customer interactions through web apps, social media, telephony, and mobile apps.• Worked closely with Microsoft engineering teams to unblock high-profile customers, incorporating solutions into products like the Azure Bot Framework and Azure Communication Services.			

<ul style="list-style-type: none"> Developed mobile apps using Xamarin and .NET MAUI, alongside low-code Power Apps for rapid deployment and scalability. 	
Microsoft	May 2006 – August 2017
Technology Architect <ul style="list-style-type: none"> Supported Federal, State & Local Government, Education, and Healthcare clients by introducing innovative solutions using emerging technologies such as HoloLens, Kinect, and Azure Media Services. Led design and development of scalable applications with Azure Service Bus, Notification Hubs, and API Management, improving service reliability and performance. Created touch-based and interactive applications, including a Plexiglas touch screen demo and a flight simulator using Kinect and Bing Maps. Played a pivotal role in transitioning customers to a cloud-first, mobile-first model through strategy sessions and POC demonstrations. 	
Dell	June 2002 – May 2006
Software Architect <ul style="list-style-type: none"> Developed enterprise-class applications leveraging SOA principles to enhance scalability and reliability. Designed the Nasdaq Surveillance Delivery Real-Time (SDR) solution, capable of handling 2000 messages per second with 99.97% availability, earning recognition as a finalist for the Computerworld Smithsonian Award. Pioneered field service mobile apps for early devices, such as the Cintas delivery personnel application, which optimized route efficiency and service quality. Built reusable frameworks and SDKs for broader use, laying the groundwork for modern SaaS and API ecosystems. 	
Plural	July 1996 – June 2002
Lead Software Developer <ul style="list-style-type: none"> Delivered scalable, client-facing solutions using early SDKs, web services, and three-tiered application architectures. Built one of the first line-of-business mobile apps for the Microsoft Pocket PC, revolutionizing field service management for Cintas. Designed and implemented reusable codebases and early API layers that facilitated rapid development and deployment for multiple clients, including Maryland Department of Education and the US Navy. Collaborated with multidisciplinary teams to drive project success and maintain alignment with client objectives. 	

10.10 AI SOLUTION ARCHITECT

Name	Positions title
Gary Schwartzberg	AI Solution Architect
Education / Certification	
<ul style="list-style-type: none"> Master of Business Administration (MBA), Rutgers University Graduate School of Management, Newark, NJ Bachelor of Computer Science (BCS), State University of New York at Albany, Albany, NY, Cum Laude GCP Certified Professional Machine Learning Engineer / AWS Certified Machine Learning Specialty 	
Technical Skills	
<ul style="list-style-type: none"> Gen AI Client engagements: Define architecture on AWS using Bedrock, LangChain, OpenSearch vector store, and DynamoDB to generate query responses and code generation to accelerate growth and productivity. 	

<ul style="list-style-type: none"> • B2B AI Client: Transformed CX experience for client (software firm) as Lead Architect for Data Pipeline and Sagemaker Project: MSK(Kafka), S3, Glue, Quicksight • ENTERPRISE Architect for Cloud Strategy, Cloud Value Management, and Cloud COE • Hands-on Architect for agile delivery projects on AWS(DevOps/Security) and GCP(GKE/FinTech DevOps) • Architect AWS DevOps Solutions that included Service Catalog, Code Pipeline, Code Build, and IAC (Terraform and Cloud Formation) • SQL experience – Data Engineering including Data Analysis and visualizations 	
Professional Experience	
TensorIoT, New York, NY AI Solution Architect	Mar 2024-Present
<ul style="list-style-type: none"> • Design and Architect RAG-based Generative AI apps using LLMs (Anthropic Claude) and AWS Bedrock, and define ML Operations (MLOps). • Transform AI-ML client requirements and vision into use cases with primary focus on employee productivity. 	
New Digital Innovations, LLC New York, NY – Contractor AI Solution Architect	Feb 2023-Mar 2024
<ul style="list-style-type: none"> • Took an intentional career break to upskill and shift my career focus on my goal of building AI solutions. • Architect GCP Data and ML pipelines including Vertex AI, EDA, Data Engineering/Pre-processing, Kubeflow, Pub/Sub, Dataflow, GKE, AutoML, BigQuery, Feature Store, Document AI, Vision AI, and Natural Language AI. • Hands-on building of AWS MLOps and Data pipelines: Sagemaker, Kinesis, S3, Glue, Athena, Quicksight, Lambda, API Gateway, Step Functions • Hands-on Model Training/Deployment using Python on Jupyter Notebooks: Scikit-learn (XGboost, RandomForestClassifier), Numpy, Pandas, Matplotlib libraries • Hands-on build, train and monitor neural networks using Tensorflow: Keras(Pre-processing, Sequential and Functional APIs), Tensorboard, and embeddings 	
Cloud OPs Studio Globant, New York, Technical Director	Jan 2021- Dec 2022
<ul style="list-style-type: none"> • Hands-on architect and delivery lead for 1st AWS-to-GCP migration for Fintech Global DevOps team that included GKE, Docker, Jenkins. • Hands-on AWS architect and delivery lead that delivered significantly improved DevOps and Security for Web Commerce applications that included Terraform, EC2, S3, SQL Server, and VPC. • Led initiative and achieved AWS Migration Competency for Globant; secured \$500,000 for client project 	
New Digital Innovations, LLC New York, NY Director - Lead Cloud Architect	Mar 2019- Dec 2020
<ul style="list-style-type: none"> • Lead architect for client engagements for AWS DB Freedom program for over \$3Million in deals that included AWS data pipelines, AWS Aurora, Redshift, and Sagemaker. • Delivery lead for on-prem to Cloud Migration Infrastructure Assessment that recommended over \$500,000 in savings. • Closed 3 deals worth over \$700,000 within 1st 3 months in Pre-sales role for IT Modernization and Migration programs. 	

10.11 DATA ANALYST

Name	Positions title
Snehal Salunke	Data Analyst
Education / Certification	
<ul style="list-style-type: none"> • Bachelor in Science, 2014 	

Technical Skills

- **Databases:** Azure SQL, Oracle, Teradata, Snowflake, SQL Server
- **Languages:** SQL, PL/SQL, HTML, UNIX Shell Scripting, Python
- **Tools:** Qlik Sense, QlikView, Informatica, Teradata SQL Assistant, Toad, TES (Tidal), MySQL Workbench
- **Data Analysis & BI Tools** Business Objects, Power BI, Power Query, Tableau, Amazon QuickSight, Snowflake, Crystal Reports, OBIEE, SSAS, SSRS, Excel
- **Cloud Platforms** Azure Databricks, Azure Data Factory, Azure Data Lake Storage, Azure Synapse Analytics, Azure SQLGoogle Cloud Dataproc, Google Cloud Dataflow, Google Cloud Storage, GCP BigQuery, Google Cloud SQL, Amazon S3, Amazon Athena, Amazon EMR, AWS Glue, Amazon Redshift, Amazon RDS, Amazon DynamoDB
- **Domain Knowledge:** Quantitative Models, Statistics, Pricing and Market Data, Fundamental Research Data
- **Data Formats:** XML, JSON, CSV, Delimited, Parquet, Structured Data Scripting & Automation Shell Scripting, Python Scripting, PowerShell for automation

Professional Experience

U.S. Bancorp | Minneapolis, Minnesota
Senior Data Analyst

Sept 2022 – Present

- Responsible for reporting Renewals data flowing into business objects through the mainstream backend databases.
- Designed star schemas and snowflake schemas to facilitate efficient data retrieval and analysis, supporting business users reporting and analytical needs.
- Performed advanced statistical analysis, identifying market opportunities that generated additional revenue.
- Automated ETL workflows and implemented data quality checks to ensure data integrity and consistency across the data warehouse environment.
- Developed master data management strategies to maintain consistent and accurate data across operational and analytical systems, enhancing data reliability and usability.
- Stored and managed large volumes of structured and unstructured data in Azure Data Lake Store, optimizing data storage and access for analytics and reporting purposes.
- Developed and optimized data transformation scripts and jobs, accelerating data processing times.
- Configured and deployed Azure Analysis Services models to provide business users with interactive, multidimensional data analysis capabilities.
- Developed and maintained ETL processes using Azure Data Factory, ensuring timely and accurate data integration from various sources.
- Utilized Python and PowerShell scripting for automation of data workflows and system monitoring tasks.
- Designed and developed insights report on AWS Quicksight.
- Maintaining streamlined interaction with Cisco Ready Business Objects team, validating data through the various ad-hoc scenarios.
- Performed end-to-end validations and performance testing for the dashboard capabilities using Business Objects, Microsoft Excel, Snowflake UI.
- Optimized existing process in MS Excel using Python and Tableau to deliver end to end business intelligence solutions across Partners, Customers & Dist.
- Developed and maintained tabular models, KPIs, and calculated measures to support executive dashboards and operational reports in Power BI.
- Worked on Power BI on how to import, shape, and transform data for Business Intelligence (BI), Visualize data, author reports, schedule automated refresh of reports and create and share dashboards based on reports in Power BI desktop.

<ul style="list-style-type: none"> Designed and implemented multiple dashboards using Power BI – PowerPivot & Power Query tools for reporting. Extending support to other team members for report design best practices using Power BI, Thoughtspot, Tableau. Resolved issues related to functionality and worked on many optimizations in the queries to achieve faster execution times. 	
<p>WellCare Tampa, FL</p> <p>Senior Data Analyst</p> <p>Jun 2020 – Aug 2022</p> <ul style="list-style-type: none"> Responsible for the Case data to flow into the EDW system through the mainstream PEGA via Oracle as interim layer. Performed data validation and cleansing activities to ensure data accuracy and integrity. Created ad-hoc SQL queries and reports for executive management, supporting strategic planning initiatives. Collaborated with cross-functional teams to define data requirements and specifications for new projects. Conducted data modeling and schema design for relational databases, optimizing data storage and retrieval. Maintaining rigorous interaction with the O2C team, validating the data through the matching scenarios on pulling the data to EDW. As part of the Data modelling in EDW, designed model for Case generic & specific tables. Worked collaboratively with ETL developers to optimize data extraction and transformation processes, ensuring data accuracy and reliability for analysis. Engaged with Project Managers and QA teams to establish project timelines, deliverables, and quality assurance protocols, ensuring successful project execution and stakeholder satisfaction. Monitored key performance indicators (KPIs) related to airline operations and marketing effectiveness, providing actionable insights to support continuous improvement efforts. Utilized SQL and data manipulation techniques to extract, transform, and analyze data from various sources, supporting in-depth analysis and reporting initiatives. Facilitated training sessions for end-users on Power BI and Tableau functionalities, enhancing user adoption and maximizing the value of reporting tools. Performed root cause analysis on recurring data quality issues, identifying underlying problems and implementing corrective measures to prevent future occurrences. Interacted with Business Users, Business owners to know their business requirements in developing and modifying Universes and Reports as per requirements in Business Objects. Deploying scripts and creating tables in Oracle as Source system & Snowflake as Enterprise Data Warehouse (EDW). Analyzed ERP data to identify trends and opportunities for process improvement. Creating Mappings, Sessions & Workflows as per the data push requirement from source to target using Informatica. Performed end-to-end validations and performance testing for the dashboard capabilities using Toad, Teradata SQL Assistant and Snowflake UI. Created dashboards in Tableau to visualize ERP data and facilitate decision-making processes. Implemented theater rules for the case data in Snowflake and is consumed through BO for reporting. Responsible in enabling the Case data in form of tables and views in Snowflake for reporting in BO universe. Responsible for the CI/CD UDeploy setup for Snowflake. 	<p>Liberty Mutual Insurance Boston, MA</p> <p>Data Analyst</p> <p>Feb 2018 – May 2020</p>

- Performed Release SME role in Commerce Lifecycle Operations Release Readiness team, governing Release Readiness and SOX Compliance Process, assessed impact for all the planned release scopes.
- Provided scope owners with data analytics and impact reviews to drive decisions and improvements in solutioning.
- Led forums with Stakeholders & Scope owners to review the requirements and proactively identify communication key points to the Customers and Partners.
- Managed data and releases cross-functionally throughout Cisco to drive the readiness process quickly, effectively, and professionally.
- Developed and implemented Python scripts to automate data processing tasks, reducing data processing time.
- Conduct/Participate in solution reviews and assess operational impact.
- Built advanced customer segmentation models using R and machine learning to identify distinct customer groups based on transaction behavior, demographics, and product usage. This enabled personalized marketing strategies that increased customer engagement by 12%.
- Emphasized adherence to organizational policies and procedures, ensuring data security and privacy while upholding ethical considerations in analytics.
- Provided timely and clear communication on production issues and business impacts, showcasing strong verbal and written communication skills in stakeholder interactions.
- Effectively conveyed data quality concerns to relevant stakeholders, fostering collaboration and a shared understanding of data integrity issues.
- Contributed to data-driven decision-making by providing insights and analysis that influenced strategic initiatives and operational improvements.
- Utilized Python for data manipulation and analysis, enhancing the efficiency of data processing tasks and supporting the automation of repetitive analysis.
- Developed comprehensive data reports that detailed findings from data analyses, supporting management in understanding customer behavior and trends.
- Conducted rigorous data testing and validation, ensuring that datasets met established quality standards before analysis and reporting.
- Automated data cleansing processes using Python scripts, significantly reducing manual intervention and improving the accuracy and timeliness of data updates.
- Designed and developed reports applied transformation for the data model, data validation and established data relationships in Power BI and created supporting documentation for Power BI.
- Drive socialization and readout across policy, process, systems, and data changes.
- Develop Sneak Peek for Partners and Sales giving early visibility on upcoming changes.
- Publish Bi-weekly Newsletter and centralized Go-Live announcement with summary and business benefits.
- Own Downtime approval for Commerce Operations, share downtime alerts and banner updates.
- Implement normalization framework and issue reporting model.

Hexaware | Hyd,India
Data Analyst

Jul 2014 – Oct 2017

- Implemented security best practices to secure, maintain, provide controlled access to archived and test data.
- Coordinated with cross-functional teams to ensure the successful execution of backup, archiving and data retrieval processes.
- Developed and published Power BI reports to portal and scheduled the dataset for automatic refresh.

- Developed many standard and customized reports using Microsoft SQL Server Reporting Services.
- Developed the Stored Procedures, Common Table Expressions (CTEs), Views to retrieve and analyze the data in the Microsoft SQL Server to create datasets required for the reports.
- Defined subtotals and totals in Power BI using DAX by creating calculated measures and columns.
- Imported data from legacy systems like Excel and Flat files to Microsoft SQL Server 2012 database.
- Created triggers to modify, retrieve, delete, and update data from the iformbuilder mobile application database to Datawarehouse.
- Involved in Index operations (Rebuild & Reorganize), database maintenance and performance Tuning.
- Created and maintained logins, roles and permissions on the SQL instances and databases and provided required privileges according to the user's requirements.
- Successfully implemented physical database on Microsoft SQL Server 2012.

10.12 BUSINESS ANALYST

Name	Navyatha Reddy Chevuru	Positions title	Business Analyst
Education / Certification			
<ul style="list-style-type: none">Bachelors in Information Technology, JNTUH 2015			
Technical Skills			
<ul style="list-style-type: none">Methodologies and Processes: OOAD (OOA/OOD, RUP , UML , SDLC , Waterfall, QA (Quality Assurance), Business Requirements Document (BRD).Tools and Technologies: WAP, CVS , TEAMMATE, MS Access, SQL Server, SAFe (Scaled Agile Framework), TFS (Team Foundation Server), MySQL, SSAS (SQL Server Analysis Services), SAS, PL/SQL, Oracle DBA, DB2.Programming and Scripting: SQL scripting, Cobol, C, C++, BASIC, Intermediate Level Visual Basic.Operating Systems: Windows, Basic UNIX.Web Technologies: HTML, Basic DHTML, Basic XML.BI and Reporting Tools: Power BI, Crystal Reports.Productivity and Design Tools: MS Office Suite (including Excel Macros), Visio, Adobe Photoshop, Flash.Modeling and Requirements Tools: Rational Rose, Rational XDE, DOORS, RequisitePro, CaliberRM.Collaboration and Document Management: SharePoint, Docushare.			
Professional Experience			
State of Texas (Health and Human Services)- Austin, TX		Jan 2022 to Present	
Business Analyst			
<ul style="list-style-type: none">As a Technical Business Analyst, involved in multiple projects-OMS Project, Order Management System (OMS) in an integral part of the ERP ecosystem, which will enable aggregating orders, and creating end- to-end inventory visibility for customers and business users. By enabling foundational technologies like intelligent order fulfillment, auto-ship and tightly integrated systems, the OMS will embed customer- centric decision making, and embody our commitment to service excellence.Involved in multiple projects simultaneously such as BizTalk upgrade, Pick Pack-pull and INavision upgradeExtracted data using SQL developer for data validation to review the data in scope for data quality issues to determine the complexity of transformation logic and for conducting basic data analysis.			

- Created source/target mapping of current and future state system integrations.
- Worked on technical/functional requirements using peer interviews, document analysis, requirements workshops, site visits, business process descriptions, use cases, scenarios, business analysis, task, and workflow analysis & documentation.
- Knowledgeable in integrating data sources with Visio diagrams to create dynamic visualizations and data-driven diagrams.
- Applied agile project management methodologies, driving project success and efficient delivery of Accela-based solutions.
- Worked on EDI transactions: 810, 850, 852, 944, 945, and 947 to identify key data set elements for designated record set. Interacted with Purchase order, inventory snap short, inventory transfer and order confirmation hence analyzing and documenting related business processes.
- Translated the EDI X12 data into XML format for initial transformation/migration.
- Wrote SQL queries to fetch Data from the Database and conducted data validation for EDI transactions.
- Worked closely with testing team at times of testing in UAT and PROD by validating data in salesforce based on request.
- Proficient in creating wireframes and prototypes using Balsamiq, facilitating the translation of conceptual ideas into tangible design concepts.
- Leveraged ERP capabilities to streamline and automate business processes, eliminate manual tasks, and improve operational efficiency, identifying opportunities for process improvement and optimization through system configuration and enhancement.
- Acted as a pivotal link between business stakeholders and Accela developers, ensuring seamless communication and alignment of requirements with Accela-based technical solutions.
- Scheduled every Thursday to run Account sync job in full sandbox to update the country code to the new accounts at times of UAT testing.
- Optimized local government planning and permitting business processes using Accela systems, leading to increased efficiency and streamlined operations.
- Validating the data in salesforce to sync with OMS and analyzing the solution to blockers based on the output.
- Identified gaps and formulated roadmap for the global system.
- Customized and configured Dynamics 365 to align with organizational workflows, business rules, and industry-specific requirements, leveraging customization tools such as Power Platform, Power Automate, and Power Apps to extend platform capabilities.
- Experienced in linking external data sources, such as Excel spreadsheets or databases, to Visio diagrams for automatic updates and real-time insights.
- Customized and configured Microsoft Dynamics NAV to accommodate specific business processes and requirements, including creating custom fields, forms, reports, and workflows.
- Managed data migration and conversion projects during Microsoft Dynamics NAV implementations, ensuring smooth transition from legacy systems by extracting, transforming, and loading data while maintaining data integrity and accuracy.
- Provided detailed User Interface Document to the new Salesforce development and testing team for clear understanding of the system.
- Mentored development teams and ensured implementation is aligned with target state architecture. Identified and launched initiative to establish global application enterprise repository, using TOGAF Content Framework, including catalogs and diagrams.
- Performed IT systems assessment to understand Enterprise IT landscape's current state, created current state IT system architecture including Business Architecture, Application Architecture, Data Architecture and Technical Architecture.

- Designed and deployed workflows, validation rules, Approval Processes and Auto-Response Rules for automating business logic with Sales and marketing cloud on salesforce.com.
- Created various Reports and Dashboards using CRM to assist managers to better utilize Salesforce cloud as a Sales Cloud, Marketing Cloud and Service Cloud, etc.
- Provided detailed User Interface Document to the new Salesforce development and testing team for clear understanding of the system.
- Collaborated with cross-functional teams including HR, IT, and Finance to ensure seamless integration of Workday HCM with other systems and processes.
- Automated testing procedures within CI/CD pipelines, including unit tests, integration tests, and end-to-end tests.
- Leveraged Power BI to develop interactive dashboards and reports, providing valuable insights into key performance indicators for senior management.
- Wrote various SQL queries for the backend using various joins, views, stored procedures, and triggers.
- Mapped user journeys to determine key touchpoints and interaction flows within the chatbot.
- Involved in documenting the process flow for Data mapping and migration of data from legacy systems to Salesforce.com Objects.

Charles Schwab, Austin-TX

Oct 2019 to Dec 2021

Business Analyst/Product Owner

- Providing business and technical requirements definition for small to large and highly complex solutions.
- Provided technical expertise in identifying, evaluating, and developing systems and procedures that are cost effective and meet user requirements.
- Performed root cause analysis on recurring issues and communicated results with Management, Vendors, and Internal IT Team.
- Created visually appealing data visualizations using Power BI's diverse range of charts and graphs to communicate complex data trends effectively.
- Managed and tracked requirements using JIRA. Worked with QA team to design and develop Test Plan and Test Cases to perform User Acceptance Testing (UAT), Functional Testing, Black Box Testing and Manual Regression Testing.
- Designed and implemented scalable Data Lake architectures on AWS using services like Amazon S3, AWS Glue, and AWS Lake Formation.
- Developed data ingestion pipelines leveraging AWS Glue and Data Pipeline for seamless data ingestion from diverse sources into the Data Lake.
- Proactively engaged with Accela system users to anticipate and address potential issues, ensuring smooth operation and high user satisfaction levels.
- Developed and implemented customized Accela system solutions tailored to meet specific business requirements, enhancing operational effectiveness and user experience.
- Proficient in creating professional diagrams and visualizations using Microsoft Visio to represent complex processes, systems, and workflows.
- Conducted in-depth analysis of Workday HCM configuration to assess alignment with business requirements, identifying gaps and proposing configuration changes to enhance system functionality.
- Worked with product owner to constantly clean the JIRA tickets, product backlog and major impediments across the project lifecycle.
- Provided mentorship and guidance to team members, sharing Accela-specific knowledge and best practices to enhance overall team proficiency and project success.
- Proficient in conducting comprehensive presentations and training sessions to communicate Accela system functionalities, updates, and best practices to stakeholders.

- Maintained software release schedule and act as a liaison between teams to ensure proper communication.
- Liaison for establishing and maintaining mutual understanding and cooperation with business customers, stakeholders, end users, and management teams.
- Ensured business needs are represented and supported throughout the project lifecycle.
- Facilitated cross-agency teams to identify and represent stakeholders' interests regarding enterprise requirements for the MTP solution.
- Developed test plans, test cases, and test scenarios to validate the functionality, performance, and usability of TEA applications, employing industry-standard testing methodologies.
- Acted as a facilitator in moderating discussions among a group to enable all participants to effectively articulate their views on a topic and help participants to recognize and appreciate the differing viewpoints.
- Involved in Requirements to elicit, analyze, document, and manage business and technical requirements, develop current state and future state models, lead or participate in implementation activities.
- Configured and customized Azure DevOps pipelines to automate build, test, and deployment processes for software applications and infrastructure.

CVS, Woonsocket-RI

Aug 2017 to Sep 2019

Business Analyst

- As a Business Analyst involved in cost estimation and forecast organization performance by use case application, the project was about development (Java, Java Scripts and Testing with Java-Selenium and manual)of the internal and mobile application called PCAS (Patient case administration software), which helped track the disbursement of the medicines to all the enrolled uninsured patients and claims processing, membership enrollment and provider data maintenance & getting access to customer records. The application kept track of all the prescriptions and health records of the patient as well as their provider information.
- Developed cost estimating process for quoting new business that was adapted by entire division.
- Conducted User Story Workshops and trained Team Members on how to effectively write User Stories
- Conducted user interviews, gathered requirements, analyzed the requirements, and managed change requirements by implementing Organization Change Management (OCM) Methodology.
- Provided EDI interfaces with Commercial and Government Insurance Payers that included Medicare and Medicaid.
- Proactively identified any risk/dependencies in time for the assigned project activities before their likely occurrence. Highlighted emerging issues as the audit lifecycle progresses and provided ad-hoc advice and guidance for the best approach.
- Experienced in utilizing various diagram types, including flowcharts, organizational charts, network diagrams, and floor plans, to communicate information effectively.
- Managed relationships with ERP vendors, serving as a liaison between the organization and software vendors to communicate
- Conducted rigorous testing and quality assurance checks on Accela system solutions to identify and resolve issues, ensuring the reliability and stability of the platform.
- Meticulous attention to detail in designing wireframes and prototypes with Balsamiq, ensuring accuracy and consistency throughout the design process.
- Defined key performance indicators (KPIs) and established performance monitoring mechanisms to track CX metrics, evaluate program effectiveness, and drive accountability.
- Collaborated with departments to align CX initiatives with business objectives, ensuring consistent and seamless customer experiences.
- Conducted thorough data analysis using Power BI, identifying areas for process improvement, and making data-driven recommendations to enhance operational efficiency.

- Managed backlog by creating a prioritized list, product backlog, and assists the team in breaking down the pieces into smaller, more manageable pieces and build it incrementally.
- Reviewed vendor files for any errors, missing segments, and for missing data on X12 file. Ensure file has complete data before encounter can be submitted to Medicare and Medicaid.
- Designed customizations and configurations of SFDC objects, page layouts, workflows, document templates, data fields, reports and dashboards according to the business need.
- Translated As-Is Business & Finance reports and created custom SFDC Reports and Dashboards for end-user's home page to reflect their timely activities and profile/role/job requirements.
- Led Microsoft Dynamics NAV implementation projects, overseeing all aspects from initial planning to deployment, ensuring alignment with business objectives and requirements.
- Worked with Medicare and Medicaid Encounter Pro to obtain Encounter from the main server to be submitted to Medicare and Medicaid.
- Proactively identified opportunities for continuous improvement within the Accela system ecosystem, driving innovation and efficiency gains to meet evolving business needs.
- Utilize SQL server to run basic queries and obtain necessary data for Medicaid and Medicare Encounters.
- Worked with Product Owners to manage and prioritize user stories in product backlog.
- Conducted project kick-off meetings, defined project objectives and scope, tracked risks, assumptions and status of the project using JIRA.
- Ensured compliance with regulatory requirements and internal security policies within Dynamics 365, implementing role-based access controls, data encryption, and audit trails to protect sensitive information and mitigate security risks.
- Used JIRA and Agility to track team progress and delivery performance.
- Organized JAD sessions to flush out requirements, performed Use Case and workflow analysis, outlined business rules, and developed domain object models.
- Assisted with user testing of systems (UAT), developing, and maintaining quality procedures, and ensuring that appropriate documentation is in place.
- Utilized Docker for containerization within CI/CD workflows to ensure consistent application deployment across environments.
- Wrote SQL to verify and validate that results match the reference data being provided.

Accenture, India

May 2015 to July 2017

Business Analyst

- Gathered technical and system business requirements, worked with end users to understand, and document current state processes to analyze operations, determined project scope and kept stakeholders focused on in-scope items only, maintained Business Requirements document.
- Studied system capabilities, analyzed alternative solutions, and prepared system specifications.
- Involved in developing project plans using MS Project and MS Share Point, identifying documents, validating requirements, and reengineering process.
- Worked within project team to identify and interpret state Medicaid and Medicare policies as applicable to customer defined algorithm research as well as assist with internal development of new healthcare analytics.
- Utilize SQL server to run basic queries and obtain necessary data for Medicaid and Medicare Encounters.
- Performed detail analysis of business and technical requirements and designed the solution by customizing SFDC in Agile environment.
- Maximized revenue generating base by identifying and addressing the zero usage customers.
- Presented the tickets inflow and progress of each ticket using JIRA, Confluence, graphs and charts and continuously groomed backlogs to fit the customer requirements.
- Worked with product owner to constantly clean the JIRA tickets, product backlog and major impediments across the project lifecycle.

- Used TFS to track, monitor and report the progress in the new implementations.

10.13 AI SECURITY ENGINEER

Name	Derrick Tucker	Positions title	AI Security Engineer
Education / Certification			
<ul style="list-style-type: none"> • Master of Science in Cybersecurity, University of California, Berkeley • Bachelor's in computer science, University of Illinois Urbana-Champaign • Certified Information Systems Security Professional (CISSP) • Certified Ethical Hacker (CEH) • AWS Certified Machine Learning – Specialty • CompTIA Security+ • Google Professional Machine Learning Engineer 			
Technical Skills			
<ul style="list-style-type: none"> • Cybersecurity: Threat detection, risk management, penetration testing, adversarial AI defense, zero-trust architectures. • AI/ML: Deep learning, NLP, TensorFlow, PyTorch, adversarial ML, secure model deployment. • Programming: Python, Java, R, C++, Bash scripting. • Cloud Security: AWS, Azure, Google Cloud Platform. • Tools: Kali Linux, Metasploit, Splunk, Wireshark, Jupyter Notebooks, SIEM tools. • Compliance: NIST CSF, ISO 27001, SOC 2, GDPR, HIPAA. 			
Professional Experience			
Microsoft, Redmond, WA		Jan 2020 - Present	
AI Security Engineer		<ul style="list-style-type: none"> • Developed secure AI/ML models for Microsoft Defender to enhance real-time threat detection capabilities. • Led the design and implementation of adversarial attack defenses for enterprise-level AI systems, reducing vulnerabilities by 35%. • Partnered with Azure Security Center to deploy AI-based anomaly detection models, increasing efficiency in threat identification. • Conducted vulnerability assessments for AI pipelines and applied mitigation techniques to secure sensitive data. • Collaborated with cybersecurity teams to integrate machine learning models into existing SIEM frameworks. 	
Google, Mountain View, CA		Jun 2017 – Dec 2019	
Machine Learning Engineer		<ul style="list-style-type: none"> • Built NLP-based models to identify phishing attempts and malware attacks, achieving a 95% accuracy rate in threat classification. • Automated the preprocessing of cybersecurity datasets using Python and Scikit-learn, improving productivity by 30%. • Contributed to the development of TensorFlow Security Modules to ensure secure deployment of AI models in cloud environments. • Researched adversarial machine learning methods and implemented defenses against evasion and poisoning attacks. 	
Cybersecurity Analyst		May 2015 – May 2017	
Sunnyvale, CA		<ul style="list-style-type: none"> • Designed and implemented encryption protocols for secure data transmission in AI-driven applications. 	

- Monitored network traffic using AI-powered tools to identify and neutralize cyber threats in real-time.
- Conducted penetration testing on AI systems and recommended patches for detected vulnerabilities.
- Provided training to cross-functional teams on secure coding practices for AI/ML pipelines.

10.14 AI SUPPORT ENGINEER

Name	Mani Chandana Jillepalli	Positions title	AI Support Engineer
Education / Certification			
<ul style="list-style-type: none">• Masters in engineering/industrial management – Business Data Analytics - University of Illinois Urbana Champaign• Diploma in Education – Data Science & Machine Learning – Steinbies Akademie• Bachelors in Electronics & Communication Engineering – Jawaharlal Nehru Technology University, Hyderabad, India.			
Technical Skills			
<ul style="list-style-type: none">• Large Language Models (LLMs): GPT-2, BERT, T5, Llama 2, Stable Diffusion• Prompt Engineering and Contextual Embeddings• Retrieval-Augmented Generation (RAG) Techniques• AI Frameworks: Hugging Face Transformers, PyTorch, TensorFlow• Scalable AI Systems Design and Development• Text Generation and Text-to-Image Synthesis• Model Optimization: Quantization, Pruning, GPU Acceleration (NVIDIA A100 GPUs)• Deployment on Cloud Platforms: AWS SageMaker, Google Cloud AI, Azure ML• Data Engineering and Preprocessing Pipelines• Data Analysis with Structured and Unstructured Datasets• Database Expertise: SQL (PostgreSQL) and NoSQL (MongoDB, BigQuery)• AI System Deployment and Scalability• Cross-Functional Team Collaboration• Advanced Generative AI Solutions and AGI Systems Development			
Professional Experience			
Data Science Research Services, Champaign, Illinois		Feb2024 – Present	
AI Support Engineer			
<ul style="list-style-type: none">• Developed and deployed the DSRS LLM Bot using NVIDIA Llama-2 70B and fine-tuned it with instruction following datasets, leveraging contextual embedding, and chunking techniques to enhance query resolution and response accuracy.• Conducted model selection and testing for open-source LLMs from Hugging Face, including Llama-2 13B/70B for text-to-text generation and Stable Diffusion XL for text-to-image tasks, optimizing model inference pipelines and ensuring reliable content output.• Prototyped and deployed a Retrieval-Augmented Generation (RAG) chain, enabling the LLM Bot to retrieve and answer questions from diverse sources such as PDFs, URLs, and CSV files, ensuring seamless document-based query handling with precise context alignment.• Executed large-scale model deployments on Hydro GPU clusters (NVIDIA A100), integrating text-to-text and text-to-image workflows into production pipelines, ensuring scalability and real-time response capabilities for research and educational tasks.• Developed advanced prompt engineering strategies to enhance model interpretability and accuracy, including Few-shot learning (demonstrating input-output examples to guide responses), Chain-of-thought prompting (encouraging step-by-step reasoning for complex queries), and Role-based prompting (assigning roles like "Explain this concept as a teacher" for tailored outputs).			

- Created and maintained the Gies DSRS repository, centralizing code assets, model configurations, job scripts, and technical documentation to streamline development cycles and improve team collaboration.
- Streamlined large-scale model training and deployment by automating job scripts with srn for efficient GPU resource allocation and configuring custom conda environments for dependency management, enhancing reproducibility and reducing setup time.
- Authored comprehensive technical documentation for the GCCP datahub and DSRS LLM Bot, facilitating knowledge transfer, onboarding, and end-user support while improving usability and overall system adoption.
- Optimized SQL workflows for datasets such as Experian and BvD Orbis, designing custom queries to streamline data retrieval processes, reduce latency, and support efficient analysis workflows.
- Tested and validated open-source generative models like Stable Diffusion XL and Llama-2, evaluating their capabilities for various tasks and ensuring deployment strategies aligned with production needs.
- Integrated retrieval-based techniques with advanced LLM architectures, aligning knowledge retrieval tasks with organizational goals and ensuring contextually accurate outputs for document-based queries.
- Enhanced model performance through infrastructure optimizations, applying techniques like quantization and pruning to reduce inference time and minimize resource utilization during cloud-based deployments.
- Collaborated with cross-functional teams of researchers, data engineers, and stakeholders to align the LLM Bot's functionality with organizational objectives, streamlining document processing workflows and accelerating delivery timelines.

Edodwaja Pvt Ltd, Hyderabad, India

Jun 2022 – Jul 2023

Python Developer with GenAI Support

- Architected and deployed Generative AI models using Python and frameworks like TensorFlow and PyTorch, delivering scalable solutions that improved personalized learning experiences.
- Curated and preprocessed large-scale datasets using Pandas and NumPy, improving data quality and enhancing model training accuracy for educational content generation.
- Trained and fine-tuned pre-trained models like GPT-2, BERT and T5 on domain-specific data, increasing content relevance and student engagement.
- Evaluated model performance using metrics like BLEU, ROUGE, and perplexity metrics, reducing content generation errors, and improving coherence in educational outputs.
- Deployed AI models into production using AWS Sage maker, enabling real-time access for educators and students through secure RESTful APIs.
- Automated the creation of tailored lesson plans and quizzes using GPT models, significantly reducing educator workload while maintaining high-quality materials.
- Developed conversational AI tutors using Lang Chain and Rasa, providing personalized, real-time assistants to students, and improving response accuracy and satisfaction.
- Implemented dynamic content delivery systems, adjusting difficulty based on user progress, enhancing retention rates, and learning outcomes.
- Integrated accessibility features, such as speech-to-text and text-to-speech tools, using Google Text-to-Speech (TTS) and Amazon Polly, expanding access for students with disabilities and non-native speakers.
- Built AI-based grading systems with transformer models to automate essay and test evaluation, reducing manual workload and providing consistent feedback.
- Designed interactive analytics dashboards using Plotly, enabling educators to monitor student performance and make data-driven curriculum adjustments.

- Developed predictive models for dropout detection using classification algorithms, identifying at-risk students, and enabling timely interventions.
- Optimized AI models through quantization and pruning, improving inference speed, and reducing cloud infrastructure costs for scalable solutions.
- Collaborated with cross-functional teams, including educators and data scientists, to align AI implementations with learning objectives and improve project delivery timelines.
- Addressed ethical concerns by implementing bias mitigation strategies and ensuring adherence to data privacy standards, fostering trust in AI-generated content.
- Experimented with cutting-edge models like Meta Llama 1 and GPT-2, enhancing capabilities for specific educational tasks and integrating advancements into the platform to improve AI performance metrics.

Capgemini, Gurgaon, India

Sep 2021- May 2022

Python Developer with AI Support

- Developed and deployed automation solutions using Python and Robotic Process Automation (RPA) tools like UiPath, Blue Prism, and Automation Anywhere, automating repetitive manual processes and improving operational efficiency.
- Built scalable data pipelines for data extraction, preprocessing, and analysis using Pandas, NumPy, and SciPy, enabling seamless data handling and supporting real-time decision-making.
- Designed and implemented RESTful APIs using frameworks like Flask and Fast API, enabling efficient communication between internal systems and third-party tools.
- Automated document processing workflows by developing Python-based scripts to streamline tasks such as text parsing, data extraction, and file organization, significantly reducing manual intervention.
- Created interactive dashboards and reports using Tableau, Power BI, and Python visualization libraries like Matplotlib and Seaborn, providing stakeholders with real-time insights into automation performance.
- Optimized automation workflows by identifying bottlenecks and implementing Python-based solutions, reducing execution time, and improving process efficiency.
- Developed Python scripts to automate file handling, database updates, and system monitoring tasks, ensuring reliability and consistency in daily operations.
- Collaborated with cross-functional teams, including business analysts and RPA developers, to identify process inefficiencies and design tailored automation solutions that met client requirements.
- Participated in the deployment of CI/CD pipelines, automating testing, integration, and deployment workflows to ensure consistent delivery of high-quality code.
- Implemented validation mechanisms to ensure data integrity and compliance with organizational standards, enhancing the reliability of automated workflows.
- Performed debugging and troubleshooting of Python scripts and RPA workflows, resolving errors efficiently and minimizing downtime.
- Maintained code repositories using tools like Git and Bitbucket, ensuring version control and adherence to coding standards across the team.
- Monitored automation systems post-deployment, collecting performance metrics, and implementing refinements to improve accuracy and scalability.

10.15 DOCUMENTATION/COMPLIANCE SPECIALIST

Name	Cynthia Griggs	Positions title	Documentation/Compliance Specialist
Education			
<ul style="list-style-type: none"> • Bachelor's Degree 			

Technical Skills	
<ul style="list-style-type: none"> • Mortgage Lending • Banking/Financial Guidelines • Underwriting Criteria • ACES • Microsoft Teams • Zoom • Microsoft Excel • Mortgage Flex • Power BI • SharePoint • Data Analysis • Auditing • Compliance with TRID, TILA, CFPB, HMDA, SAFE Act, AML/BSA, KYC, OCC, CDD, OFAC, Fincen Forms, SARs, CTRs, Privacy Act 	
Professional Experience	
Perlman LLP Meza AZ Compliance Specialist	Apr 2024 - Present
<ul style="list-style-type: none"> • Draft and edit policy forms, endorsements, notices and related correspondence for regulatory filing and approval. • Monitor and communicate status of filings to internal business partners. • Develop and implement corrective action plans to address any compliance deficiencies • Coordinate and submit all state regulatory filings as needed, including, but not limited to, annual rate, rule and form • Provide compliance research and support to legal for various regulatory jurisdictions as required • Monitor state regulations to determine the impact of new/changing state laws on company practices and propose applicable policy changes. • Respond to and coordinate responses to regulatory inquiries as required, such as complaints and market conduct inquiries. Maintain required logs and documentation. 	
ADP Inc Tempa AZ Payroll Support Specialist	Jul 2023 – Mar 2024
<ul style="list-style-type: none"> • Provide Tech support for Client and products navigation including data maintenance • Assist Clients with Payroll Processing, tax with issues, import data, identify errors and research • Collaborate and communicate with other business units to resolve escalated specific tasks to meet Client expectations • Oversaw Reporting and Analysis to gather historical data, create complex calculations and update company data • Consultation by acting as a trusted advisor to Client and provide support and recommendations during meeting and calls • Processed weekly payroll for over 200 employees 	
ONQ Financial Tempa AZ Compliance Specialist	Jun 2019 – Jun 2023
<ul style="list-style-type: none"> • Performed various roles as a Underwriting Liaison and Construction Servicer in support of ONQ Financial’s mission of simplifying the mortgage process and making the dream of homeownership a reality. Collaborating and communicating across departments in support of compliance monitoring, risk assessment, reporting, • documentation, and training. 	

- Collaborate with other business units to prepare monthly internal audits; ensure results are accurate, and all processes are understood prior to presenting results to the executive leadership team (ELT)
- Drive resolution on identified loan issues with SMEs in order to prepare final audit reports
- Compile documentation, coordinating and supporting state audit exam
- Manage compliance training assignments for all employees and monitor completion rates
- Reviewed marketing materials to ensure compliance parameters were met before publishing externally
- Coordinate meetings as necessary to support issue resolution and clarify policy changes (SOPs) with ELT, closing managers, and compliance department members
- Responsible for ensuring documentation throughout the process meets Federal, State and Investor guidelines, including accuracy and quality in support of data integrity and SOPs
- Conducted regular risk analysis to identify red flags for escalation and resolution by the underwriters
- Responsible for clear and consistent communication with all parties involved, internal and external, to streamline the loan closing process in a timely manner
- Collaborated with sales team on the restructuring of loan programs
- Monitored business controls to ensure processes are compliant with TRID guidelines
- Ensured taxes and insurance are accurately set up for Escrow impounds accounts
- Developed SOP guides, tools, and training material to improve skill sets across the company that resulted in increased efficiencies, improved quality, and reduced costs

Company: Union Bank Tempa AZ

Mar 2016 – Jun 2019

Analyst| Mortgage Closer

- Built and maintained relationships with clients, assessing their financial needs, and guiding them through the loan application process while ensuring regulatory compliance and achieving sales targets.
- Successfully reduced loan cycle times by implementing effective inventory management and QA control processes, resulting in an average funding of 50 loans per month
- Streamlined the loan closing process by interfacing with and supporting internal and external stakeholders, resulting in timely loan closures
- Performed pre-closing audits to ensure TRID guidelines were met before submitting to 3rd parties, which improved overall compliance rates and reduced risks and losses
- Ensured saleable loans by conducting post-closing audits to verify document accuracy and compliance
- Demonstrated expertise as an SME on various loan types including: Heloc, Grants, VA/FHA loans, purchases, refinances, and wholesale loans
- Ensured loan accuracy by reviewing title and appraisal reports, verifying underwriting, flood certification, and processor conditions
- Successfully managed loan fundings by wiring funds, balancing general ledgers, and ensuring compliance with LEs, initial CDs, final CDs, and settlement statements
- Boosted team production by training new and existing employees on system platforms, compliance, and team initiatives

10.16 TRAINER AND KNOWLEDGE TRANSFER SPECIALIST

Name	Positions title
Aaron Smith	Trainer And Knowledge Transfer Specialist
Education / Certification	
<ul style="list-style-type: none"> • Master of Science in Artificial Intelligence, University of California, Berkeley – Berkeley, CA • Bachelor of Science in Computer Science, University of Texas, Austin – Austin, TX • Certified AI Trainer (AITC) – International Association of AI Trainers • Deep Learning Specialization – Coursera (offered by Stanford University) • NLP Practitioner Certification – Udemey 	

Technical Skills	
<ul style="list-style-type: none"> • AI Tools and Technologies: TensorFlow, PyTorch, Keras, OpenAI API • Machine Learning & Deep Learning Frameworks • Natural Language Processing (NLP) and Computer Vision • Training & Development: Workshop Facilitation, Curriculum Design, LMS Administration • Knowledge Transfer: Documentation, SOP Development, Process Transition • Communication: Effective Presentation Skills, Cross-functional Collaboration 	
Professional Experience	
Accenture – San Francisco, CA	June 2021 – Present
AI Trainer and Knowledge Transfer Specialist	
<ul style="list-style-type: none"> • Designed and delivered training sessions on AI concepts, tools, and technologies for teams of developers, data scientists, and business stakeholders. • Conducted workshops on implementing AI strategies in business workflows, with a focus on predictive analytics and customer insights. • Developed and maintained an interactive learning management system (LMS) to streamline training and knowledge dissemination. • Collaborated with clients to customize training programs tailored to their industry-specific needs. • Facilitated the transition of AI projects by documenting workflows and providing hands-on support during knowledge transfer phases. • Delivered post-training support, including FAQs, troubleshooting, and AI tool best practices. 	
Dell Technologies – Austin, TX	January 2019 – May 2021
Knowledge Transition Specialist – AI Initiatives	
<ul style="list-style-type: none"> • Led end-to-end knowledge transfer initiatives for large-scale AI implementation projects, ensuring seamless handovers to internal teams. • Coordinated with cross-functional teams to document project details, technical specifications, and AI model workflows. • Created user manuals, training guides, and step-by-step operational procedures for AI tools deployed across client organizations. • Conducted remote and on-site training sessions to educate teams on AI adoption strategies. • Analyzed feedback from participants to continually refine and enhance training content. 	
PwC – New York, NY	August 2017 – December 2018
AI Consultant and Trainer	
<ul style="list-style-type: none"> • Delivered AI consultancy services, advising clients on the adoption and integration of machine learning and AI solutions. • Provided one-on-one mentoring to junior data scientists and engineers on AI technologies and best practices. • Conducted training sessions on Python for AI, TensorFlow, and NLP, catering to both technical and non-technical teams. • Partnered with client leadership to identify training needs and gaps, creating targeted learning modules 	

10.17 PILOT IMPLEMENTATION LEAD

Name	John Doe	Positions title	Pilot Implementation Lead
Education / Certification			
<ul style="list-style-type: none"> • Master of Science in Artificial Intelligence, Stanford University – Stanford, CA • Bachelor of Science in Computer Science, University of California, Berkeley – Berkeley, CA • AWS Certified Machine Learning – Specialty • Google Cloud Certified – Professional Data Engineer 			

<ul style="list-style-type: none"> • Certified ScrumMaster (CSM) 	
Technical Skills	
<ul style="list-style-type: none"> • Programming: Python, R, Java, SQL • AI/ML Tools: TensorFlow, PyTorch, Keras • Cloud Platforms: AWS, Google Cloud, Microsoft Azure • Data Tools: Tableau, Power BI, Apache Spark • Collaboration Tools: JIRA, Confluence, Trello • AI Project Implementation & Management • Cross-Functional Team Leadership • Pilot Program Design & Execution • Data Analysis & AI Model Optimization • Stakeholder Communication & Training • Workflow Automation with AI Tools • Agile & Waterfall Methodologies • Business Process Reengineering 	
Professional Experience	
Google – Mountain View, CA	June 2020 – Present
Pilot Implementation Lead – AI Projects	
<ul style="list-style-type: none"> • Designed and executed pilot programs for AI-driven customer support chatbots, resulting in a 20% improvement in response times and a 95% satisfaction rate during the pilot phase. • Led a cross-functional team of 10+ engineers, data scientists, and business analysts to deploy AI-based fraud detection systems for financial clients, identifying anomalies with 98% accuracy. • Developed a standardized framework for AI pilot implementation, reducing deployment time by 30% across multiple client projects. • Coordinated with stakeholders to gather requirements, monitor pilot performance, and deliver actionable insights for full-scale rollouts. • Collaborated with QA teams to develop test cases and evaluate AI model robustness during the pilot phase. 	
IBM – New York, NY	February 2016 – May 2020
AI Implementation Consultant	
<ul style="list-style-type: none"> • Directed the pilot implementation of AI-powered predictive maintenance systems for manufacturing clients, reducing machine downtime by 25%. • Implemented machine learning models for supply chain optimization pilots, leading to a 15% increase in operational efficiency. • Partnered with clients to identify use cases for AI integration, define success metrics, and ensure pilot objectives were achieved. • Conducted workshops and training sessions for client teams to facilitate the adoption of AI tools and workflows. • Streamlined the transition from pilot to production by documenting workflows and managing knowledge transfer. 	
Accenture – Boston, MA	January 2014 – January 2016
AI Project Manager	
<ul style="list-style-type: none"> • Managed pilot programs for AI-enhanced customer analytics platforms for retail clients, achieving a 40% increase in customer segmentation accuracy. • Designed roadmaps for AI proof-of-concept projects, aligning deliverables with business objectives and client timelines. • Oversaw pilot outcomes and prepared comprehensive reports to guide stakeholders in decision-making for full-scale implementation. 	

<ul style="list-style-type: none"> Coordinated with development teams to integrate AI capabilities into existing enterprise systems during pilot testing.
Microsoft – Seattle, WA AI Implementation Specialist
August 2012 – December 2013
<ul style="list-style-type: none"> Supported the deployment of AI-driven content recommendation systems for media clients during pilot phases, leading to a 15% increase in user engagement. Conducted feasibility studies and impact assessments for AI pilot initiatives, identifying key challenges and mitigation strategies. Acted as a liaison between technical teams and client stakeholders, ensuring clear communication and alignment on pilot objectives.

10.18 BUSINESS INTELLIGENCE DEVELOPER/ENGINEER

Name	Positions title	Business Intelligence (BI) Developer/Engineer
Derrick Parker		
Education/Certification		
<ul style="list-style-type: none"> Master of Science in Data Analytics, University of Illinois – Urbana-Champaign, IL, August 2009 – May 2011 Bachelor of Science in Computer Science, University of Michigan – Ann Arbor, MI, August 2005 – May 2009 		
Technical Skills		
<ul style="list-style-type: none"> BI Tools: Power BI, Tableau, Looker ETL Tools: SSIS, Informatica, Alteryx Databases: SQL Server, Oracle, MySQL, PostgreSQL Cloud Platforms: AWS (Redshift, Glue), Azure (Data Factory), Google Cloud (BigQuery) Programming Languages: SQL, Python, DAX, R Version Control: Git Agile Methodologies & Project Management 		
Professional Experience		
Amazon Web Services (AWS) – Seattle, WA		June 2020 – Present
Senior Business Intelligence Engineer		
<ul style="list-style-type: none"> Designed and implemented BI dashboards in Power BI for global sales and marketing teams, increasing decision-making efficiency by 25%. Automated ETL pipelines using AWS Glue and Redshift, reducing data processing times by 40%. Collaborated with data scientists to integrate machine learning outputs into BI reports, enabling predictive analytics for product performance. Improved query performance by optimizing SQL scripts and indexing strategies, reducing dashboard load times by 30%. Conducted training sessions for business users, enhancing self-service BI adoption by 50%. 		
Google Cloud – Mountain View, CA		January 2016 – May 2020
Business Intelligence Developer		
<ul style="list-style-type: none"> Developed interactive dashboards in Tableau for financial reporting, resulting in a 20% reduction in report preparation time. Designed star and snowflake schemas to support BI requirements, ensuring efficient querying and reporting. Led the migration of BI platforms to Google BigQuery, improving data accessibility and reducing operational costs by 15%. Collaborated with stakeholders to define KPIs and metrics, aligning BI solutions with business goals. 		

<ul style="list-style-type: none"> Implemented data governance practices to ensure data accuracy and compliance across departments. 	
Deloitte – Chicago, IL	Date: August 2013 – December 2015
BI & Data Analyst <ul style="list-style-type: none"> Analyzed large datasets and created Tableau dashboards for client presentations, improving client satisfaction scores by 20%. Designed ETL workflows in Informatica to aggregate data from multiple sources for analytics. Performed root-cause analysis on data discrepancies, implementing solutions that improved reporting accuracy by 30%. Partnered with IT teams to ensure seamless integration of BI tools with ERP systems such as SAP and Oracle. Developed monthly and quarterly performance reports, providing actionable insights for executive decision-making. 	
Accenture – New York, NY	June 2011 – July 2013
Junior BI Developer <ul style="list-style-type: none"> Assisted in the development of Power BI dashboards for internal and client-facing projects. Supported ETL processes using SSIS, ensuring timely data availability for analytics. Conducted data validation and testing to maintain data quality across reporting solutions. Created documentation for BI processes and workflows, improving team collaboration. 	

10.19 SOFTWARE DEVELOPER

Name	Edmund Tomkus	Positions title	Software Developer
Education / Certification			
<ul style="list-style-type: none"> Bachelor of Science in Computer Science (BSCS), University of Westminster, Westminster College London, UK City & Guilds National Qualification Level II & III Diploma in IT Microsoft Virtual Academy (MVA) 2010 – Present Member of the .NET Developer's Association at Microsoft 			
Technical Skills			
<ul style="list-style-type: none"> Programming Languages & Technologies: C# 5.0, .NET Framework 4.5, .Net Core, Bot Framework, Language Understanding Intelligent Service (LUIS), Visual Studio 2015, Visual Studio 2017, VB.NET, ASP.NET, ADO.NET, MVC 4, ASP, PHP, VBScript, OO JS, AJAX, JavaScript, TypeScript, jQuery, VueJs, React, Angular JS 2.0 , Single-Page Application (SPA), Single-Page Interface (SPI) Architecture, Mobile First Responsive Web Design, Bootstrap CSS Framework, ASP.NET Web API, Python, Go, Java, J2EE, Objective-C, C, HTTP Web Services, mobile sites, real-time technology, WebSockets, Web Services, SOAP, WCF, Windows Forms, WPF, MVVM, Xamarin Forms, IIS 5-8, Crystal Reports, Access, Excel, Microsoft SharePoint, AJAX, DDE – Dynamic Data Exchange, Visual Basic 6, COM, Microsoft visual C++, Win32, NP AIP, Borland C++, JAVA, Servlets, JSP, Ruby, Ruby on Rails, OOD, OOP, XML, Language Integrated Query LINQ, GraphQL, SQL, T- SQL, Stored Procedures, DTS Packages, SQL Server Integration Services (SSIS), SQL Server Data Tools (SSDT) for Visual Studio 2012, 2015, Microsoft Azure cloud computing platform, Azure Cosmos DB Emulator, Azure Cosmos DB service, SQL Azure Database, ISAPI, Microsoft Rascal, MS MITA, MS MAUI, Git version Control system, Telerik controls, Hybrid Mobile Telerik controls, GitHub, VS Coded UI, Blazor, WebAssembly, RestSharp - REST and HTTP API Client for .NET, C#, Xamarin.Forms, XAML, SQLite, Reactive Extensions, Azure, WordPress, Web template system, Microsoft Dynamics, Blockchain, Crypto, DeFi, NFT, Solidity, nopCommerce , Azure SQL, SQL Server, Azure Data Factory, SSIS, Azure Data Bricks, Azure Data Lake, Synapse Development Tools & Environments: Microsoft Visual Studio.NET 2003, 2005, 2008, 2010, 2012, 2013, 2015, 2017, 2019, Team Foundation Server (TFS), Microsoft Visual Studio Code, 			

<p>Visual InterDev, VSS, Windows Azure SDK, Perforce, Java Builder 6, Macromedia Dreamweaver, UltraDev, HomeSite, Aptana Studio, Eclipse SDK 3.5, NetBeans IDE 6.9, Windows PowerShell, IntelliTest, Android Studio</p> <ul style="list-style-type: none"> • Database Management Systems: MySQL Server, MySQL Workbench, SQLite , PHPmyadmin, Microsoft SQL Server 7.0, 2000, 2005, 2008, Microsoft SQL Server Compact 3.5, Amazon RDS (Relational Database Service) SQL database cloud service • Operating Systems: Windows 95, 98, NT Server, 2000, XP, Windows Vista, Windows, Linux 	
Professional Experience	
City of Seattle - Municipal Court Information System (MCIS 2.0) Project 2021 Sep. – 2024 Jan.	
Sr. Software Developer	
<ul style="list-style-type: none"> • Developed on Municipal Court Information System Integration project, worked on Web API, integration, Web API Data Mapping, UI, middle tier and backend development using , HTML, CSS, Angular v15, React v16, Azure, Python, C#, C++, ASP.NET Web APIs, SQL server databases, Azure Cosmos DB, Azure Cosmos DB Emulator, Azure Cosmos DB service, Azure Data Factory, Azure SQL, SQL Server, SSIS, SSL/TLS secure sockets layer, transport layer security, worked with XSD and XSLT documents, ensuring data integrity and adherence to industry standards, development and maintenance of APIs, RESTful and SOAP-based messaging. • Worked on Portal for Zoom API application and integration, Zoom Phone API integration using C#, REST Web APIs, Postman, GIT, Swagger, HTML, Angular v15, React v16, Vue.Js, CSS, JavaScript, TypeScript, React, RESTful, SQL Server, Visual Studio Professional 2019, Azure DevOps Server, VS Code, Visio, Azure Active Directory (Azure AD), .NET MAUI (Multi-platform App UI) for cross-platform mobile and desktop applications development, .NET Multi-platform App UI (.NET MAUI) BlazorWebView control to host a Blazor web app in .NET MAUI app 	
OptinMedia Auburn, WA 2020 Jan. - 2021 Aug.	
Sr. Software Developer	
<ul style="list-style-type: none"> • Developed Windows services, SMS Messaging System, Internet marketing tools, Web Applications using C#, WinForms, Asp.Net, MVC, SPA (Single page application), WebAPIs, client and server code development. Worked business process analysis, technical specifications gathering, legacy code maintenance, reverse engineering, code refactoring and code documentation using Visual Studio 2019, VS Code, Angular, React, Vue.Js, Type Script, JavaScript, HTML, CSS, .Net, C#, Python, Ruby, Ruby on Rails, ASP.NET MVC, Web APIs, Web Forms, NPM v5.5.1 , Web Pack, Blazor, Web Assembly, SQL Server 17.9, JSON, Rest Sharp - REST and HTTP API Client for .NET, SQL, SQL Server Management Studio, Azure Cosmos DB, Azure Cosmos DB Emulator, Azure Cosmos DB service, Azure SQL Database, Azure Search Service, webpack-dev-server, Node, Node.JS and Python, Xamarin.Forms, XAML, Blazor, WebAssembly, SQLite, Azure DevOps, Git. Worked Zoom APIs web based audio and video communication application. • Developed WebRTC application. Internal tool for Integrated real-time audio, video, and data communication features using WebRTC APIs. Collaborated with cross-functional teams to gather requirements and create technical specifications. 	
Microsoft Advanta B, Bellevue, WA Sept 2018 – Nov 2019	
Sr. Software Developer	
CCI (Customer Care Intelligence System)	
<ul style="list-style-type: none"> • Developed Web Portal - Single-Page Application (SPA), Customer Care Intelligence System based on Cloud AI, machine learning services. • Worked on user interface, middle tier and backend code (Full Stack). • System business process analysis, technical specifications gathering, legacy code reverse engineering, code refactoring, code documentation, functionality testing and solution deployment. 	

<ul style="list-style-type: none"> • using Visual Studio 2017, VS Code, React, VueJs, Type Script, JavaScript, HTML, CSS, .Net C#, ASP.Net MVC Web API, SQL Server 17.9, JSON, RestSharp - REST HTTP API, SQL, SQL Server Management Studio, Microservice Architecture, Azure cloud computing service, Azure Cosmos DB, Azure SQL Database, Azure Search Service, Python, Webpack, Node, Git, SSL/TLS secure sockets layer, transport layer security • Worked on AIP (Azure Intelligence Platform) • Developed ETL (Extract, Transform, and Load) using Microsoft Azure Data Factory pipelines, , Microsoft Azure Storage, Azure SQL, BLOB storage, Stored Procedures, Microsoft Azure SDK, .Net, C#, JSON, SQL 		
PACCAR / KPIT,	Renton, WA	June 2017 - Sep 2018
Sr. Software Developer		
<ul style="list-style-type: none"> • Developed “Routing” - manufacturing process application using Windows Forms MDI Application, Visual Studio 2017, .NET, C#, A SQL Server 2016, SQL, CSLA .NET, Stored Procedures, ADO.NET, Active Directory authentication and authorization. Worked on VB6 legacy code reverse engineering and rewriting in .NET, C#, HTML, CSS, JavaScript, Ruby, Ruby on Rails, Python, • Requirement gathering, UX, UI design, middle tier and data layer development • Developed Reports using SSRS, SQL Server Data Tools in Visual Studio 2015, SQL Server® 2008, SQL Server Enterprise manager, Stored Procedures • Worked on ETL processes, SSIS, SSAS, Data Modeling 		
TechMahendra / Microsoft,	Redmond, WA	Jan 2017 – June 2017
Sr. Software Developer		
<ul style="list-style-type: none"> • Developed Device Configuration Manager SPA (Single Page Application) - Microsoft intranet system using Visual Studio 2015, .NET, C#, ASP.NET MVC, Telerik controls, Ruby, Ruby on Rails, Web API 2, Angular, SQL Server 2016, Azure, Azure Active Directory • Participated in requirement gathering, UX, UI design, middle tier and data layer architecture, worked on user interface (UI) tests using Visual Studio Coded UI Tests • Developed web services using Web API 2, Postman, C#, Asp.Net MVC, worked on design and development of SQL Server database, SPA app development using AngularJS 2, TypeScript, NodeJS, Angular-cli, HTML, CSS, worked on Azure Active Directory integration with AngularJS SPA app, worked on SQL Server database migration to Azure SQL server 		
United Airlines, Houston, TX		Sept. 2015 – Jan. 2017
Sr. Software Developer		
<ul style="list-style-type: none"> • Developed “Pilot Records” intranet system – ASP.NET MVC, Web Forms hybrid application • Technical specifications gathering, business process analysis, solution design and • Communication between technical and nontechnical staff • Performed System analysis and legacy code reverse engineering • Production support of IT systems and applications, analysis of incidents and requests from end-users, code debugging, solution development • Worked on application architecture, implementation of new functionality and changes in the database schema, developed database objects, T-SQL stored procedures, SQL Server User Functions using SQL Server 2008 R2, Worked on data extraction from external data sources, data migration to SQL Server databases using SQL Server Integration Services (SSIS), SQL Server Data Tools (SSDT) , SQL Azure Database development, Windows Azure SDK, .Net Core • Windows PowerShell to automate SQL activities, backups, deployment • Developed algorithms, data structures, middle tier, data access layer, data Models, Views, Controllers, using ASP.NET MVC Framework, C# .NET, Visual Studio 2013 		

<ul style="list-style-type: none"> • Developed user interface using ASP.NET, Web Forms, Ruby, Ruby on Rails, Hybrid Mobile Telerik, Telerik UI controls for ASP.NET, AJAX, HTML5, CSS, JavaScript, JSON • Worked on system integration with third party API and external data sources, developed RESTful services using Visual Studio 2013, TFS, Web API, ASP.MVC MVC, C#, Java, JSP, Java servlets. • Unit tests code using IntelliTest 	
<p>Trustev, RadioShack Corporation, Fort Worth TX</p> <p>Full Stack Software Developer / Project Lead</p> <p>Sept. 2014 – Sept. 2015</p> <ul style="list-style-type: none"> • Developed RadioShack Intranet Sales Portal Application - fully integrated wireless carrier activation platform for RadioShack Corporation Fort Worth, TX • Analyzed business requirements, worked on architecture, user experience, UI development, algorithms, data structures, multi-threaded functionality, middle tier, data access layer, data Models, Views, Controllers, Structuremap, dependency injection, Visual Studio 2013, TFS, Microsoft Azure cloud computing platform, ASP.NET, Android Studio, Java, MVC, SQL Server 2008, SQL, T-SQL stored procedures, SQL queries, LINQ to SQL, HTML, CSS, TypeScript, JavaScript, JSON, Node.js, C# 5.0, .NET Framework 4.0, 4.5, Windows Azure SDK, SQL Server 2012, SQL, T-SQL, LINQ, MS Entity Framework (EF), D3.js (D3 Data-Driven Documents) JavaScript library for dynamic data visualization, Angular Js, HTML, CSS, JavaScript, GitHub • Developed device / carriers Search engine functionality, worked on search algorithms, optimization, testing using T-SQL, ASP.NET MVC, Web Forms, HTML, CSS, Python, JavaScript, C#, ASP.NET Web API, SOAP, XML, HTTP Web Service, Git Version Control system • Developed XML Web Service Client functionality to consume Verizon XML Web Services, RESTful services, SOAP, XML, XSD, and functionality to retrieve mobile device carrier data, signup and activation process. Worked on distributed systems integration, using C#, .NET, XDocument, XmlDocument object, LINQ to XML • Performed data extraction, transformation, migration from Excel to SQL Server databases using SQL Server Integration Services (SSIS), SQL Server Data Tools (SSDT). • Developed Intranet tool using WebRTC-based solutions for web browsers and mobile applications. Integrated real-time audio, video, and data communication features using WebRTC APIs. Collaborated with cross-functional teams to gather requirements and create technical specifications. • Participated in building a team, hiring developers including candidate resume reviews, conducting technical developer interviews. • Technical specifications gathering, business process analysis, solution design • Leading technical team of 5 developers. 	<p>Clark County Government, Las Vegas, NV</p> <p>Sr. Full Stack Developer / Programmer Analyst</p> <p>June 2012 – Oct. 2013</p> <ul style="list-style-type: none"> • Developed police and FBI Wanted Vehicle System (WVS) • Analyzed business requirements, worked on architecture, user experience, user interface, middle tier, data access layer, data model, backend development. Developed algorithms, data structures, multi-threaded functionality, distributed systems, performance optimization, search algorithms development and testing using C# 4.0, .NET Framework 4.0, 4.5, Visual Studio 2012, Visual Studio 2013, SQL Server 2008, SQL, T-SQL, SQLite, LINQ, MS Entity Framework (EF), Windows Forms, Web Forms, WPF, MVVM, MVC, C#, VB.NET, ASP.NET Web API, SOAP, XML, JSON, Multi-threading, HTTP Web Services, • REST (Representational state transfer software architectural style), HTTP CRUD (Create - Post, Retrieve - Get, Update - Put, Delete - Delete) functionality

- Worked on Single Page Applications (SPA) that reduce round tripping, and enhance User Experience (UX), using OO JS, JSON, AJAX, JavaScript, jQuery, JQuery Mobile, Bootstrap CSS Framework, CSS, CSS3, HTML5, Mobile First, Responsive Web Design.
- Developed ASP.NET Web Controls User Interface, Microsoft SharePoint Web Parts using Infragistics, Telerik RadGrid controls
- Data query development, ETL Extract Transform Load Processes, merging datasets, filtering data using SQL Server Integration Services, SSIS, Windows PowerShell to automate SQL activities, backups, deployment
- Reverse engineered and developed software components and applications for Las Vegas Clark County Government Business License Administration System application
- Worked on Business License Administration System address verification functionality, integration with Melissa Data API, Google Map API. Developed user interface, middle tier and backend using AJAX, OO JS, JSON, XML, DOM, ASP, Python, ASP.NET, MVC 4, ASP.NET Web API framework, HTTP services, JavaScript, jQuery, Knockout JS, Melissa Data API, WCF Service, SOAP, Visual Studio 2010, 2012, Team Foundation Server (TFS), Entity Framework (EF) data layer, Model View Controller (MVC), Third-party system integration
- Full stack web development using Agile - iterative, incremental software development Methodology

Google (acquisition) Motorola, San Diego, CA

Sept. 2011 – March 2012

Full Stack Software Developer / Embedded Software Engineer

- Researched, prototyped, developed software components and applications including Motorola Video Player SDK, Video Player UI for Microsoft Windows OS, Web Browser plug-ins
- Developed web browser plug-ins for MS IE, Mozilla Firefox and Google Chrome using NPAPI (Netscape Plugin Application Programming Interface, cross-platform plugin architecture), C++, Microsoft Visual Studio 2008, 2010, Team Foundation Server (TFS)
- Developed plugin setup installation MSI Project for Internet Explorer, Firefox, Safari, Google Chrome, and Opera
- Developed components for Motorola Video Streamer Client application using Microsoft Visual Studio 2008, 2010, C++, Win32, OpenGL, MPEG2 Transport Stream, Windows Forms, C# .NET, JAVA, XML, JavaScript, HTML5
- Developed DirectShow filters for MPEG-2 system streams using DirectShow (API), C++ Win32, Microsoft Visual Studio 2010
- Developed .m3u8 file download mechanism, file parser to extract Transport Stream data for video player functionality using Microsoft Windows HTTP Services, (WinHTTP) C/C++ API.
- Worked on porting Macintosh source code objective C to MS Windows Win32 native code using Microsoft Visual Studio 2010 C++ Win32
- Researched and Developed NPAPI plug-in for Motorola Video Player
- Developed plugin setup installation MSI Project for Internet Explorer, Firefox, Safari, Google Chrome, and Opera
- Developed C++ win32 components to JAVA function calls using Java Native Interface (JNI).
- Researched on available translators from Java To win32 C++, Ported Java Classes to C++ code using “JAVA to C++ Converter” from www.tangiblesoftware.com
- Researched and Developed Multicast DNS service discovery for local network application using win32 C++, mDNS Protocol
- Developed streamer service discovery application using “Avahi” code base, mDNS (Multicast DNS) Protocol, using C++ Win32, Visual Studio 2010
- Developed XML parser component using “XmlLite” API to implement channel parser functionality using win32 C++, Visual Studio 2010

<ul style="list-style-type: none"> Developed Streamer SDK library, user client UI Sample application as well as library test code using Win32, C++ Visual Studio 2010 Worked on algorithms, data structures, multi-threaded applications, distributed systems, performance optimizations, user interface, middle tier and backend development. Agile software development 	<p>Superb Internet Corporation, Honolulu, HI Jan. 2010 – Sept. 2011</p> <p>Software Engineer / Full Stack Developer</p> <ul style="list-style-type: none"> Reverse Engineered, researched, prototyped, developed internet and intranet systems, business administration tools, sales dashboard, business accounting API, billing API, prototyping, user interface design, middle tier development, backend development, test and maintenance of applications after deployment using LAMP, PHP, SQL, MySQL, AJAX, JavaScript, HTML, .NET, Windows Forms, Web Forms, .NET Framework, ASP.NET, C# 4.0, LINQ, WPF, MVVM, WCF, Visual Studio 2010, NetBeans IDE 6.9, Linux, MS Windows OS and development environments Effectively communicated technical concepts to non-technical members of staff and clients. Worked on UI, user experience design. Agile software development. Full stack windows and web application development Developed Data Mining processes, automatic methodologies of analyzing data for hidden pattern discovery, recommendation generation, customers segmentation
<p>Industrial Defender, Bothell, WA Sept. 2008 – Dec. 2009</p> <p>.NET Software Developer / Full Stack Developer</p> <ul style="list-style-type: none"> Developed Access Manager 4 - a secure remote access and authentication solution which provides centralized and decentralized access topologies and is hardware and protocol agnostic for easy deployment Participated in gathering and analyzing user requirements, performed software development including user interface design, prototyping, coding, test and maintenance of application after deployment (modification and support to end-users) <p>Key features include:</p> <ul style="list-style-type: none"> Secure access and authentication for electric power substations and remote sites Comprehensive Auto Audi reporting to support NERC CIP compliance requirements Centralized and decentralized support for user authorization and authentication Support for Active Directory single point administration and group management Enhanced third-party device monitoring support, including Cisco firewalls and switches Created Windows events logging mechanisms, registry settings manipulation functionality Tools and technologies used: Microsoft visual studio, Windows Forms, ASP.NET forms, MYSQL and MS SQL Servers, (ETL) Extract, transform, load data into databases, developed embedded applications, Windows Services, using C++ win32, C#, VB.NET, .Net, ASP.NET, JavaScript, Ajax, SOAP, XML, JSON, Multithreading and other Microsoft technologies. 	<p>Microsoft Corporation, Redmond, WA March 2008 – Sept. 2008</p> <p>.NET Software Developer</p> <ul style="list-style-type: none"> Researched and developed Software components to process and display automated hardware test data Developed data layer, middle tier, user interface Successfully completed development lifecycle using Agile Methodologies - XP (Extreme Programming), OOP, Visual Studio.NET 2008, ASP.NET 3.0, ADO.NET, C#, XML, HTML, CSS, JavaScript, Agile software development methodologies

Golf Savings Bank, Mountlake Terrace, WA Jan. 2007 – Mar. 2008 .NET Full Stack Software Developer <ul style="list-style-type: none"> Developed banking software - loan origination application and administration tools Performed system analysis, reverse system engineering, system integration, component development and integration with existing applications Developed reports, search engine, database design, T-SQL stored procedures development Worked on User Interface, Middle tier and backend code development using Agile Methodologies - XP (Extreme Programming), OOP, Visual Studio.NET 2003, 2005, ASP.NET 1.1, ASP.NET 2.0, ADO.NET, C#, C++, ASP, OO JS, AJAX, JavaScript, SQL Server, T-SQL, XML, HTML, SOAP, Web Services, CSS, VSS, Perforce Successfully completed development lifecycle 	
City of Seattle Fire Department, Seattle, WA Apr. 2006 – Jan. 2007 .NET Software Developer <ul style="list-style-type: none"> Successfully completed development lifecycle of “Prefire System” - windows Client Server Application Worked on architecture user interface, business logic, custom user controls development Developed Web Administration Tool for In House Training Web Application, Search engine, User login authentication system Worked on user interface, middle tier and database design using object oriented design and programming, Agile Methodologies - XP (Extreme Programming), MS Visual Studio 2003 - 2005, WinForms, ASP.NET, ADO.NET, C#, SQL Server 2000 - 2005, DTS, Building DTS Packages in DTS Designer, T-SQL, XML, HTML, CSS, VSS, Java Builder 6, JAVA, JS 	
Washington Mutual Bank, Seattle, WA .NET Software Developer / Full Stack Software Developer <ul style="list-style-type: none"> Designed and developed Change Request System, administration tool, search engine, password encryption, and user’s login authentication system Worked on user interface, middle tier and database design and development using object oriented design and programming, Visual Studio.NET, ASP.NET, ADO.NET, C#, SQL Server, T-SQL, XML, HTML, CSS, VSS, and Perforce Agile software development 	Nov. 2005 – March 2006
Microsoft Corporation, Redmond, WA .NET Software Developer <ul style="list-style-type: none"> Developed test automation system worked on architecture, User Interface, Middle Tier and backend database development using OOD, OOP, Microsoft Rascal, VS.NET, C#, ASP.NET, ADO.NET, SQL Server, T-SQL, MITA, MAUI, XML, VSS Successfully completed research and development lifecycle 	March 2005 – Sept. 2005
T-Mobile, Bellevue, WA .NET Full Stack Developer <ul style="list-style-type: none"> Developed Business Process automation system. "Number Block" ordering automation, administration tools, data processing utility Worked on architecture, business logic, middle tier, database and user interface development using OOD, OOP, VB.NET, C#, ASP.NET, ADO.NET, ASP, ADO, SQL Server, Stored Procedures, T-SQL, Excel, XML Web services, IIS 6, HTML, XML, VSS, AxWebBrowser component, successfully completed development lifecycle Effectively communicated technical concepts to non-technical members of staff and clients 	March 2004 – March 2005

Microsoft Corporation, Redmond, WA	Sept. 2003 – March 2004
.NET Software Developer	
<ul style="list-style-type: none"> Developed financial application "MAPSS" - Marketing Analysis Planning Support System development life cycle. Worked on financial application "RAPSS" - Readiness Analysis Planning Support System. Reverse engineered, developed user interface and middle tier, worked implementation of additional features and changes using VS.NET, C#, ASP.NET, SQL Server, Stored Procedures, T-SQL, XML Web services, IIS 6, HTML, XML, VSS. 	
Clickm2 Headquarters, Seattle, WA	July 2002 – July 2003
.NET Software Developer	
<ul style="list-style-type: none"> Designed and developed a random, rotating advertisement system. Signup and unsubscribe from the emailing list. Created architecture and did programming of a registration administration tool. Developed windows based data processing utilities, database design and programming, did data migration, data transformation using SQL Queries, DTS - data transformation service using Microsoft Visual Studio.NET, WinForms, Crystal Reports, C#, ASP.NET, ADO.NET, ASP, SQL Server 2000, T- SQL, Stored Procedures, MS Access 2002, IIS 5, HTML, XML. Participated in gathering and analyzing user requirements, performed software development including: user interface design, prototyping, coding, test and maintenance 	
Mission Communications LTD., London, UK	Aug. 2000 – May 2002
Full Stack Software Developer	
<ul style="list-style-type: none"> Developed SQL Server relational databases, intranet systems, using Microsoft Visual Studio, ASP, JAVA, Java Server Pages, JSP, JBuilder, Microsoft SQL Server 2000, T- SQL, Stored Procedures, IIS 5, HTML, JavaScript, XML, Access 2000, Created web components using Borland C++ Builder, Crystal Reports development. Developed company's websites search engines, administration tools. Worked on user interfaces, middle tier, and backend using Microsoft Visual Studio 6, VB6, ASP, Microsoft SQL Server 2000, T- SQL, Stored Procedures, IIS 5, HTML, JavaScript, and COM objects, OOD, OOP, JAVA, Java Server Pages, JSP development. Designed and developed technical architecture and functionality for projects listed below: London Pass www.londonpass.com York Pass http://www.yorkpass.com Leisure Pass Group www.leisurepassgroup.com New York Pass www.newyorkpass.com "London Pass" website's administration tool "York Pass" statistics and e-mailing administration tool New York Pass statistics and e-mailing administration tool Bath Pass statistics and e-mailing administration tool Leisure Pass Group statistics and e-mailing administration tool AMR website's administration tool Effectively communicated technical concepts to non-technical members of staff and clients. 	

10.20 SOFTWARE SME

Name	Victor Kingue	Positions title	SME
Education / Certification			
<ul style="list-style-type: none"> Bachelor of Science (Computer Engineering), Douala Institute of Technology Douala, Cameroon - September 1997 Security+ Certification 			
Technical Skills			
<ul style="list-style-type: none"> Management: Project Management, Business Requirement, System Analysis, Functional and Technical Writing, Uses and Tests Cases. 			

- **Programming:** Java, JSP/JSF, Json, HTML5, ExtJS, JS, CSS, Python, JQuery, Ajax, T-SQL, PL/SQL, XML, Angular, Node, React, Apex
- **Application Servers:** Apache (Beam, Kafka, Flink, Pinot, Spark), Tomcat X, Iplanet, JBoss, WebSphere, WebLogic
- **Database Access:** JDBC, ODBC, Solr, ORM (Spring, Hibernate), Oracle Middleware (OUD, OVD, BPEL, OHS, OAM), SSIS, SSRS
- **RDBMS:** Oracle X, Informix 7.X, SQL server X, MS Access X, DB2, Informix, NoSQL (MongoDB)
- **OS:** Windows X, Unix, Linux, OpenVMS, Cloud (AWS, Azure), Virtual Machine, Containerization, OpenShift Container Platform
- **Frameworks:** Web Services (RESTful, Amazon), Microservices, SOA, SOAP, Spring, JMS, ESB, DoDAF, CAMEO, Unicom, SecDevOps
- **Methodology:** OO Design, Agile, SCRUM, RUP, Pair Programming, TDD, SAFe. AI, ML
- **Development Environment:** Eclipse, Vi, Emacs, IntelliJ, OutSystems, eXprs
- **Building and Source Control:** Maven, Ant, JBuilder, CVS, Git, Gradle, Sencha, Continuous Integration (Jenkins), SVN
- **Tools:** MS Project, JIRA, DOORS, ADF, GWT, TOAD, UML, SysML, SharePoint, EntelliTrak, Hadoop, Splunk, Confluence, WorkDay
- **Testing:** JUnit, WebRunner, WebInspect
- **Languages:** French (Native), Portuguese (Basic), Spanish (Basic).

Professional Experience

US Corps of Engineers – ERDC/JPS

05/2020–Present

SME

Architecture:

- Designed data-based Architectural Diagrams and Models (DOORS, UML, SysUML, Unicom System Architecture)
- Designed Continuous Integration and Continuous Deployment Pipelines (Jenkins)
- Designed and Configured Kubernetes Gateway and brokers
- Installed, Configured and Designed Dev, Test and Production environments (Azure Portal, AWS, Linux)
- Installed and Configured Application Server/Web Server/ORM Frameworks (WebSphere, Apache, Hibernate, Spring Data)

Development:

- Data Management (PostgreSQL, Oracle, PL/SQL, MongoDB, Hibernate, Kafka, WorkDay)
- Designed and Implemented Interfaces to interact with client environment (REST, XML, JSON, JMS, SOA/SOAP, APEX)
- Designed and Implemented Java Web/Micro Services (RESTful/SOAP Services) in a OpenShift Container managed by Kubernetes
- Designed Data Models (MongoDB repositories) to Relational Data Structures
- Designed and Implemented User Interface Screens (Angular/React/Node, HTML5, AJAX, jQuery, PHP, CSS)
- Resolved Production Bugs on 24/7 Triage Tickets (Remedy)

Leadership/Mentorship:

- Provided general technical oversight and support to junior team members
- Groom Sprint Stories and Manage daily Scrums
- Point of Contact between management and Technology

US Army/NATO – ACOP/ATMISS Program

Functional/System Analysis:

- Gathered Business Requirement

Tryfacta Inc.

SBA 8(a), SBA WOSB, DBE, MBE, SBE & CMMI Level 3 Organization

4637 Chabot Drive, Suite 100, Pleasanton, CA 94588

Phone: 408-893-5500 & 925.640.3641 | Email: RFP@tryfacta.com

<ul style="list-style-type: none"> Developed Functional and Technical documents. <p>Architecture:</p> <ul style="list-style-type: none"> Designed data-based Models (DOORS), Architectural Diagrams (UML, SysUML, Unicom System Architecture) Installed, Configured and Designed Dev, Test and Production environments (Azure Portal, AWS, Linux) Installed and Configured Application Server/Web Server/ORM Frameworks (Tomcat, Apache, Hibernate, Spring Data) <p>Development:</p> <ul style="list-style-type: none"> Data Management (PostgreSQL, Oracle, DB2, PL/SQL, NoSQL, Hibernate, Oracle Middleware, Kafka) Designed and Implemented Interfaces to interact with client environment (REST, XML, JSON, JMS, SOA/SOAP, APEX) Designed and Implemented Java Web/Micro Services (RESTful/SOAP Services) in a OpenShift Container managed by Kubernetes Designed and Implemented User Interface Screens (Angular/React/Node, HTML5, AJAX, jQuery, PHP, CSS) Resolved Production Bugs on 24/7 Triage Tickets (Remedy) <p>Leadership/Mentorship:</p> <ul style="list-style-type: none"> Provided general technical oversight and support to junior team members as Agile Scrum Master Point of Contact between management and Technology 	<p>US Treasury, Legacy Migration Washington, DC 10/2016 – 04/2020</p> <p>SME/ Technical Lead</p> <p>Functional/System Analysis:</p> <ul style="list-style-type: none"> Developed Business Requirement gathering and Translation into Sprint Stories and Technical Specifications Developed Functional, Technical documents and Test Case Scenarios <p>Architecture:</p> <ul style="list-style-type: none"> Installed, Configured and Designed Dev, Test and Production environments (Azure IaaS/Portal, JBoss/EAP) Installed and Configured Application Server/Web Server/ORM Frameworks (JBOSS, Apache, Hibernate, Spring Data) Designed and planned architectural migration documents. <p>Development :</p> <ul style="list-style-type: none"> Data Management (MongoDB, DB2, Oracle, PL/SQL, SQL, Stored Procedures, Hibernate and Spring Data Layers) Designed and Implemented Interfaces with client environment (REST, JMS, JSON, XML, SOA/SOAP, Actimize) Designed and Implemented Back End Services for data exchange with external data sources (Microservice, RESTful/SOAP) Designed and Implemented Interactive Reports with ExtJS/Angular/Node.js based User Interface (HTML5, XML, PDF, Excel, PDF) <p>Leadership/Mentorship:</p> <ul style="list-style-type: none"> Provided general technical oversight and support to junior team members. Assignment, support, and task tracking (JIRA) <p>Client: US State Department - Central Payment System (Pay.Gov)</p> <p>Architecture:</p> <ul style="list-style-type: none"> Installed, Configured and Designed Oracle and MongoDB Databases.
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- Installed and Configured Application Server/Web Server/ORM Frameworks (Tomcat, JBOSS, Apache, Hibernate, Spring)

Development:

- Data Management (Database Design, PL/SQL, SQL, Stored Procedures, Hibernate and Spring Data Layers)
- Designed and Implemented Interfaces to interact with client environment (REST, JMS, JSON, XML, SOA/SOAP)
- Designed and Implemented Back End Services for data exchanges Pay.Gov (SOAP, REST Web Services, eXprs)
- Designed and Implemented data mapping between database and Java (Hibernate, Spring, Annotations, Envers, VBA)

Client: Defense Logistics Agency - Data Migration

Architecture:

- Installed, Configured and Designed Automated Build, Continued Integration and Deployment (Jenkins, Gradle, Maven)
- Installed and Configured Application Server/Web Server/ORM Frameworks (Tomcat, Apache, Hibernate, Spring)

Development:

- Designed and Implemented Interfaces to interact with client environment (REST, JMS, JSON, XML, SOA/SOAP)
- Designed and Implemented Data Migration from DB2 XML Documents to Oracle Tables (REST, SOAP, XML Gateway)
- Designed and Implemented data mapping between database and Java (Hibernate, Spring, Annotations, Envers)
- Designed and Implemented Document Search in a NoSQL Database (DB2) with Java/REST API

Client: Federal Financing Bank - Application Modernization

Functional/System Analysis :

- Developed Business Requirement gathering and Translation into Sprint Stories and Technical Specifications
- Developed Functional, Technical documents and Test Case Scenarios

Architecture:

- Installed, Configured and Designed Automated Build, Continued Integration and Deployment (Jenkins, Gradle, Maven)
- Installed, Configured and Designed Oracle Database Schemas, Oracle Forms
- Installed and Configured Application Server/Web Server/ORM Frameworks (Tomcat, Apache, Hibernate, Spring)

Development:

- Data Management (MongoDB, DB2, Oracle, PL/SQL, SQL, Stored Procedures)
- Designed and Implemented Interfaces to interact with client environment (REST, JMS, JSON, XML, SOA/SOAP)
- Designed and Implemented a Report Engine using POI, WSDL, WSD Formats (REST, SOAP, XML Gateway)
- Designed and Implemented data mapping between tables and Java (Hibernate, Annotations, Envers) and handle/log errors
- Designed and Implemented Document Search in a NoSQL Database (DB2) with Java/REST API

Leadership/Mentorship:

- Assign, Track and Provide technical support to senior and junior team members (JIRA)
- Point of Contact between Management and Technology

NTT Data (EntelliTrak), DoD Reston, VA	Sept 2014 – Oct 2016
Sr. Application Engineer Functional/System Analysis: <ul style="list-style-type: none"> • Business Requirement gathering and Translation into Sprint Stories and Technical Specifications • Developed Functional and Technical documents as well as Developed Test Case Scenarios Development: <ul style="list-style-type: none"> • Data Management (MongoDB, DB2, Oracle, PL/SQL, SQL, Stored Procedures) • Designed and Implemented New Customized Workflow Screens in EntelliTrak Platform (Java, JSP, jQuery, JavaScript) • Designed and Implemented New Data Reports (iReports) • Designed and Implemented New Workflow Screens compliant with Section 508 Accessibility (Java, JSP, jQuery, JavaScript) Testing/Training: <ul style="list-style-type: none"> • Developed Automated Test scripts for New Workflow Screens • Developed Technical Development documents. Leadership/Mentorship: <ul style="list-style-type: none"> • Assign, Track and Provide technical support to senior and junior team members (JIRA) • Point of Contact between Management and Technology 	
SRA, GAO/NIH , Washington, DC	March 2013–September 2014
Software SME Functional/System Analysis: <ul style="list-style-type: none"> • Business Requirement gathering and Translation into Sprint Stories and Technical Specifications • Write Functional and Technical documents. Architecture: <ul style="list-style-type: none"> • Installed, Configured and Designed Automated Build, Continued Integration and Deployment (Jenkins, Gradle, Maven) • Installed, Configured and Designed Database Schemas, Free Text Search Engine (SQL Server, Oracle, MySQL, Solr, Oracle ADF) • Installed and Configured Application Server/Web Server/ORM Frameworks (Tomcat, Apache, Hibernate, Spring) • Configured Documentum Document/Search/Classification/Input/Business Process/Communication/Web Content Management Development: <ul style="list-style-type: none"> • Data Management (MongoDB, DB2, Oracle, PL/SQL, SQL, Solr Search, Stored Procedures, Oracle ADF) • Designed and Implemented Interfaces to interact with client (REST, XML, JSON, JMS, SOA, LDAP, RSA Authentication) • Designed and Implemented User Interface components (ExtJS, AJAX, jQuery, JavaScript, JSP, JSON, JSF 2.0). • Designed and Implemented re-usable components, messaging, rules and Error Handling and Logging (SOAP, REST, RPC, JMS) • Designed and Implemented data mapping between database and Java (Hibernate, Spring, Annotations, Envers, Quartz/Cron Jobs) Leadership/Mentorship: <ul style="list-style-type: none"> • Provided general technical oversight and support to junior team members. • Assignment, support and tracking of tasks (JIRA) 	
BAE Systems, Inc (RBC, BB&T, 5TH 3RD, PayPal)	February 2011 – March 2013
Sr. Technical Consultant	

Functional/System Analysis:

- Business Requirements and specifications of customizations.
- Write Functional and Technical documents.

Architecture:

- Installed and Configured Automated Build and Deployment (Jenkins, Gradle, Maven)
- Installed and Configured Database/Free Text Search Engine (SQL Server, Oracle, MySQL, Solr, Oracle ADF)
- Installed and Configured Application Server/Web Server/ORM Frameworks (Tomcat, Apache, Hibernate, Spring)

Development:

- Data Management (MongoDB, DB2, Oracle, PL/SQL, SQL, Solr Search, Stored Procedures, Actimize)
- Designed and Implemented Interfaces to interact with client environment (Web Services, LDAP, Single Sign-On, ESB, SOAP)
- Designed and Implemented User Interface components (JSP, JSF, XML/JSON, jQuery, JavaScript, CSS, Tiles, Ext-JS).
- Designed and Implemented re-usable core components and business functionalities with RESTful Web Services, Java/J2EE.
- Designed and Implemented data mapping between database and Java objects (Hibernate, Spring, Java/J2EE)

Client: NASA - Electronic Data Storage

Functional/System Analysis:

- Collect Business Requirements and specification of customizations.
- Write Functional and Technical documents.

Architecture:

- Installed and Configured Automated Build and Deployment (Jenkins, Maven)
- Installed and Configured Databases/Free Text Search Engines (SQL Server, Oracle, MySQL, Solr)
- Installed and Configured Application/Web Servers (Jetty, Tomcat, Apache, WebSphere, JBoss)

Development:

- Data Conversion and Migration from legacy system to Oracle (Database Design, TSQL, ETL - Stored Procedures)
- Designed and Implemented User Interface (JSP, JSF, AJAX, jQuery, JavaScript, XML, JSON, HTML5, CSS).
- Designed and Implemented Object Oriented Java classes for Web Services with back-end Error Handling and Logging.
- Designed and Implemented business functionalities (Java, JMS, EJB, Hibernate, JDBC, Oracle (ADF), SQL Server, MQSeries)
- Design new Architecture to migrate existing system to a Java/J2EE platform (WebSphere/JBOSS, Spring/Hibernate, Shell jobs)

IntelliVerb, NOAA, Washington, DC

February 2008 – February 2011

Sr. Technical Lead

Functional/System Analysis:

- Business Requirements and specifications of customizations.
- Design and Develop Uses and Tests Cases

Architecture:

- Installed and Configured Database/Free Text Search Engine (SQL Server, Oracle, Solr, ADF) with Configurable Global Variables
- Installed and Configured Application/Web servers (WebSphere Portal and Portlets-JSR, WebLogic, JBoss)

<ul style="list-style-type: none"> Configured Automated Build and Deployment (Jenkins, Maven) 	
Development: <ul style="list-style-type: none"> Designed and Implemented Report Engine using XML/JSON Parsing, Error Handling and Logging in SOA/SOAP architecture calls. Designed and Implemented back-ends cron jobs (JNI, C/C++, ESQL/C, PL/SQL) in shell scripts and Error Handling and Logging. Designed and Implemented business functionalities and user interface (JavaBeans, jQuery, JSP, JSF, JavaScript, HTML5) Designed and Implemented XML/JSON mapping table structure to csv/text files for data Extraction, Transformation and Load 	
Leadership/Mentorship (Onshore and Offshore team of eight): <ul style="list-style-type: none"> Assign, Track, Support and Verify Tasks of junior team members (JIRA) Point of Contact between management and Technology 	
Sapient, Atlanta, GA	December 2006 to January 2008
Sr. Associate Technology Level 2	
Implementation/Integration/Support: <ul style="list-style-type: none"> Responsible for installing, configuring, monitoring, deploying code and supporting Java/J2EE applications. Responsible for translating business requirements to the development team for customization. 	
Development: <ul style="list-style-type: none"> Designed and Implemented middle tier components (Session and Entity -EJB, Struts) Designed and Implemented back-end business objects (Java Beans, Servlets), XML/JSON Parsing, Error Handling and Logging Designed and Implemented Spring MVC (Models, Controllers, Validators, Web flows) Designed and Implemented business functionalities and user interface (JavaBeans, JSP, JSF, JavaScript, HTML, AJAX) 	
Leadership/Mentorship (Onshore and Offshore teams of eight): <ul style="list-style-type: none"> Subdivided and tracked tasks between entry level and junior associates. Provide technical support to lower-level associates. 	
ThoughtMill (TSYS): SunTrust, Billing Systems, Atlanta, GA	Feb 06 - Nov 2006
Software Developer	
Analyst/Functional: <ul style="list-style-type: none"> Develop Data Flows and Data Models. Requirements and specifications gathering. Write Functional and technical documents. 	
Architecture: <ul style="list-style-type: none"> Installed and Configure Databases (Oracle) Application servers (WebSphere Portal and Portlets-JSR, WebLogic, JBoss) 	
Development: <ul style="list-style-type: none"> Designed and Implemented Front End pages with JSP/JSF and Configurable Global Variables. Designed and Implemented Object Oriented Analysis and Design Patterns to convert Data Objects to XML files 	
Accenture (MCI/ATT), Atlanta, GA	August 2003 - January 2006
System Analyst	
Client: Synovus (Billing Systems) – Columbus, GA	
<ul style="list-style-type: none"> Designed and Implemented back-end cron jobs to map text/csv files to data structures (C/C++, ESQL/C, PL/SQL, Stores procedures) Designed and Implemented Spring MVC (Models, Controllers, Validators, Web flows). 	

- Designed and Implemented user interface (Java, JSP, JavaScript, Java Beans, Servlets, HTML, XML, Error Handling and Logging)

10.21 DATABASE DEVELOPER

Name	Adeel Munawar	Positions title	Database Developer
Education / Certification			
<ul style="list-style-type: none">• MS in Computer Science - Maharishi University of Management, Fairfield, Iowa• Bachelor of Science in Computer Science - International Islamic University• Power BI - Data Analyst Associate (Certification).• Microsoft SQL Server 2008 - Business Intelligence Development and Maintenance (Certification).• MCTS - Microsoft Certified Professional• Databricks - Databricks Fundamentals (Course).• Databricks - Databricks Generative AI Fundamentals (Course).• Coursera - Python for Data Science and AI (Course).			
Technical Skills			
<ul style="list-style-type: none">• Cloud and Data Platforms: ADF, Azure SQL, Azure Data Lake, Databricks, Azure• Databases and Query Languages: SQL Server, RDBMS, Oracle, PL/SQL, T-SQL, SQL• Development and Methodologies: Scrum, Agile, Waterfall and Iterative• Tools and Technologies: Power BI, Tableau, ETL• Programming and Analytics: Python, Artificial Intelligence, Analytics• Data Management: Data Warehouse, Validation			
Professional Experience			
Islamabad Rehabilitation Center Islamabad, PK		Jul 2023 – Sep 2024	
Database Engineer Database Developer			
<ul style="list-style-type: none">• Involved in development, customization, implementation and providing production support of oracle-based products.• Created Azure SQL databases that increased system performance by 40%.• Implemented dimensional modeling in Azure Synapse Analytics DW and Azure SQL DB.• Developed SQL scripts for query automation to remove the need for human interaction when executing SQL queries; this increased the volume and accuracy of queries being executed by 65%.• Designed data warehouse objects like fact tables, dimension tables, partitions, materialized views, packages etc.• Developed composite SQL scripts using dynamic SQL, analytical functions, and PIVOT.• Improved query performance by query optimization, tracing the query execution plan explain plan.• Firsthand experience of working with data migration from on-premises SQL Server to Azure Cloud.• Implemented data ingestion to Azure data lake using ADF.			
LTIMindtree, Tampa, FL		Nov 2022 – March 2023	
Database Engineer, Database Developer			
<ul style="list-style-type: none">• Developed an automated analytics pipeline in Microsoft Azure, streamlining data processing and reducing processing time by 45%.• RDBMS database development includes T-SQL and PL/SQL programming.• Prepared shell scripts for ETL to run in batch.• Created ETL procedures to transform data from legacy sources to staging area and from staging area to data warehouse using SQL and PL/SQL.• Developed scripts for data ingestion.			

<ul style="list-style-type: none"> Used collections, bulk binds to improve performance by minimizing the number of context switching between the SQL and PL/SQL engine. ETL implementation using SQL server integration services (SSIS). Developed extensive ETL pipelines utilizing Azure Data Factory, leading to a 30% increase in workflow efficiency. Implemented data lineage and orchestration practices. Developed complex scripts for data cleansing, enrichment and formatting in SQL and its dialects. 	
<p>Harmonia Holdings Group, LLC., Blacksburg, VA</p> <p>Jan 2021 – Oct 2022</p> <p>Database Engineer/Database Developer</p> <ul style="list-style-type: none"> Streamlined batch processing times by 40% by implementing analytical and pipeline functions taking benefits of in-memory processing. Optimized data manipulation queries, resulting in 35% faster executions and expedited analysis. Developed complex SQL scripts, analytical functions and PL/SQL packages. Developed ETL pipelines utilizing SSIS and SQL techniques. Improved query performance by query optimization – tracing the query execution plan explain plan. Migrated SQL Server and Oracle database to Microsoft Azure Cloud. Involved in the design of data warehouse using star schema methodology and converted data from various sources to SQL tables. Encapsulated frequently executed SQL statements into reusable database objects to reduce the query execution times. Implemented data cleansing, enrichment, data validation and orchestration. Involved in database tuning and performance optimization of DML operations. 	
<p>Inoventures LLC., McLean, VA</p> <p>June 2017 – Jan 2021</p> <p>Database Engineer/Database Developer</p> <ul style="list-style-type: none"> Firsthand experience in developing SQL scripts for automation. Designed and modified the database tables, keys, indexes, grants, triggers, packages, functions, and procedures. Developed ETL pipelines utilizing SSIS and SQL techniques. Executed complex SQL queries to analyze customer data, increasing actionable insights by 35%. Integrated Power BI dashboards to visualize analytics, which enhanced reporting capabilities for stakeholders. Implemented SQL best practices to reduce the processing time and to increase the performance of ETL processes. Implemented data mesh principles for data governance. Built effective code pipelines, reducing deployment errors by 35%. Implemented ETL, data cleansing, enrichment and formatting scripts using SQL, T-SQL and PL/SQL. Designed and built the dimensions and cubes with star schema and snowflake schema using SSRS. 	
<p>Collabera, Basking Ridge, NJ</p> <p>Nov 2014 – Jan 2017</p> <p>Database Engineer/ Database Developer/ Data Modeler</p> <ul style="list-style-type: none"> Implemented data models in Erwin data modeler. Developed scripts and procedures to implement the database design. Conducted software testing and applied data sampling techniques during the testing and validation process. Helped in software deployment and provided production support. Implemented strategies for regression, smoke and integration testing. 	

- Developed scripts for production deployment and versioning through tools like SVM and GitLab.
- Developed PL/SQL scripts for database applications.
- Designed and developed Oracle APEX web application for Reporting and DML operations.
- Understood the OLAP processing for changing and maintaining the warehouse, optimizing dimensions and hierarchies, and adding the aggregation to the cubes.
- Practiced scrum techniques in Agile environment.