

Louis Vera

Philadelphia, PA |

EDUCATION

West Chester University of Pennsylvania

Bachelor of Science in Computer Science – Magna Cum Laude

West Chester, PA

Jan. 2021 – Dec. 2023

Reading Area Community College

General Education

Reading, PA

June 2019 – Dec. 2020

EXPERIENCE

Full Stack Engineer

Nov. 2025 – Present

S2 Technovations – Internal Revenue Service (IRS)

Remote

- Designed and developed RESTful API endpoints using Java Spring Boot for the IRS Error Resolution Application, supporting validation and processing of high-volume tax form submissions (940, 1040, 1040-X, 4868) for millions of taxpayers annually.
- Engineered a version-aware payload conversion layer using polymorphic deserialization and a factory pattern in Spring Boot, maintaining backward and forward compatibility across legacy and new IRS form types with zero-downtime migration of existing records.
- Implemented a JSON schema-driven multi-form rendering system in React 19 / Next.js 15 supporting 20+ IRS tax form types with dynamic field visibility, conditional logic, and real-time validation – new form types require configuration only, no code changes.
- Architected Spring factory pattern with automatic bean detection to route form-specific validation rules to isolated service classes, improving scalability and separation of concerns across 20+ IRS form types.
- Integrated AI/LLM workflows into the Error Resolution System (ERS) to enhance automated error detection and correction, improving accuracy and processing efficiency for high-volume IRS tax form processing.

Java Developer (Government & Public Services – AI & Engineering)

Jul. 2024 – Oct. 2025

Deloitte – Internal Revenue Service (IRS) BMF Modernization

Mechanicsburg, PA

- Collaborated with a 27-member cross-functional team to modernize legacy ALC mainframe systems into Java-based applications for the IRS Business Master File (BMF).
- Translated 50+ ALC modules to Java with 100% functional parity and regression-free validation via automated JUnit testing; deployed on GitHub for 120+ IRS engineers.
- Led refactoring efforts on a Large Scale Technology Modernization Project (HARVEST), improving tools & automation performance by 30× across 50+ VBA modules converted to Java.
- Implemented CI validation and JUnit test automation, improving code reliability and reducing defects by 10%.
- Maintained and enhanced enterprise backend systems with MongoDB, REST APIs, and Java-based microservices; earned Exceptional performance review recognized by Deloitte leadership.

PROJECTS

Intelligent Document Q&A Chatbot | *Java, Spring Boot, Spring AI, OpenAI, MongoDB, Docker, AWS S3*

- Developed a Spring Boot microservice leveraging Spring AI and OpenAI APIs to process PDFs, generate embeddings, and deliver contextual responses via LangChain.
- Implemented a three-tier architecture with modular data abstraction and AWS S3 for document storage.
- Presented findings on Model Context Protocol and PEFT fine-tuning within a Deloitte AI research group, applying results to optimize model inference.

TECHNICAL SKILLS

Languages: Java, Python, TypeScript, JavaScript, SQL

Frameworks: Spring Boot, React 19, Next.js 15, JUnit, Mockito, LangChain, PyTorch, OAuth, JWT

Databases: Oracle, MongoDB, Redis, MySQL

Tools: Docker, Jenkins, Git, SoapUI, DBever, Maven, VS Code, Jira, GitHub Copilot

AI / ML: OpenAI APIs, Spring AI, LLM Integration, Model Context Protocol, PEFT Fine-tuning

Certifications: NVIDIA AI Technical Curriculum (2025), Deloitte GPS Generative AI Fundamental