

Zachary John Lavengco

AI Full-Stack Engineer

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Summary

AI full-stack engineer with over 6 years of experience building Python-based backend services and React-driven front ends. Skilled in designing scalable microservices, data products, RESTful APIs, and deploying on cloud platforms like Azure. Contributed to the production launch of a generative AI application, chatbot, on multiple platforms using RAG architecture for wealth advisors' use.

Skills

- **Programming Languages:** Python, Java, C/C++, React, JavaScript, TypeScript, HTML, CSS, YAML, XML, Kotlin, Golang
- **Back-End & API Development:** REST APIs, Graph APIs, Postman, Bruno, Databricks, Data Pipelines, Pipeline Modeling
- **Databases:** SQL, Postgres, Liquibase, Vector DBs, GraphQL, Database Management and Modeling, Medallion Architecture
- **Cloud & DevOps:** Azure/Azure Portal, Cloud Resources, Github Actions (CI/CD), Containerization (Docker)
- **AI & ML Tools:** RAG, Prompt Engineering, Agent Orchestration, Generative AI/LLMs, ChatGPT, Copilot, Codex, Claude, LangGraph, AI Metrics, LLM-as-a-judge, Natural Language Processing (PyTorch, Scikit-Learn, HuggingFace, NLTK, etc.), MCP
- **Methodologies & Practices:** Agile/Scrum, Microservices Architecture, Unit Testing, Selenium Testing, DAST, Playwright

Experience

Northern Trust

AI Full-Stack Engineer - Wealth Management

Chicago, IL · Jul 2024 - Present

- Contributed to the production launch of the company's first generative AI application on multiple platforms using RAG architecture on Azure by deploying function app microservices to enable advisors to query a centralized knowledge repository and reducing document search time by 85% across core workflows
- Collaborating in agile/scrum teams and business users to design and lead features that create production-grade data products within Databricks for further aggregation downstream for an AI Research Agent
- Architected and coded the application's first production-grade Databricks data pipeline in a microservices architecture, ingesting from two internal data sources and designed for scalability of future datasets
- Independently designed and built an AI testing framework for comparing AI configuration changes against previous ones, leveraging troubleshooting skills to compare prompt efficiency and AI model performance
- Designed and implemented calculated and AI-specific evaluation metrics for LLM responses, including LLM-as-a-judge analysis, to consistently measure response quality, hallucination rates, and AI models
- Presented and demoed the generative AI platform 8+ times to business and technical audiences (up to 200+ attendees), explaining AI concepts, system capabilities, and the bank's long-term AI vision

Full Stack Developer - Asset Management and Shared Services

Chicago, IL · Jul 2023 - Jul 2024

- Enhanced a public-facing web application with React and Adobe Experience Manager, implementing database management improvements to elevate user experience and ensure data consistency
- Advanced a client facing Spring Boot web application and platform using React and Kotlin, this application would process and manage real time trades that replaced third party applications

Walsh Group

Software Engineer

Chicago, IL · Jul 2021 - May 2023

- Developed full-stack code using C#, VB, JS, and more to implement a variety of tools onto the company's internal website to make working tasks to increase productivity and efficiency of others
- Created SQL queries working with the company's databases to satisfy requests regarding programs dealing with data cleanup and searching, as well as reports

Projects

Hackathon Winner - AI-Powered Document Parsing & Generation Tool

Chicago, IL · Sep 2024

- Built an AI-driven document automation tool in Salesforce that scans withdrawal and contribution forms using Tesseract OCR, detects fields, tables, and checkboxes via OpenCV, and generates updated documents based on contextual data.
- Extracted metadata for each field and mapped it to data sources, combining Salesforce client data with user inputs to auto-populate forms—reducing manual document creation time by 95%.

DevChat | [Web App](#)

Chicago, IL

- Developed a terminal themed chat app that is made for developers using Next.js
- Utilizes Google OAuth for logging in, Firebase for the database, 3rd party APIs, and more

Certifications

- Microsoft Azure Fundamentals - AZ 900
- Generative AI Engineering with Databricks course | Data Engineering with Databricks course

Education

University of Illinois at Chicago | Honors College

Bachelor of Science, Computer Science

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