Education

University of Wisconsin-Madison

Aug. 2021 - Dec. 2024

B.S. Computer Sciences

Experience

Capital One Chicago, IL

Software Engineer Feb. 2025 – Present

- Full-Stack development on the Payments microservice on the Velocity Black platform a company acquired by Capital One.
- Developed and shipped features in mobile app (React Native) and agent dashboard (React), using TypeScript across the stack, and NestJS, RabbitMQ on the backend.
- Collaborated across all horizontals to develop and launch a universal checkout feature with Stripe, significantly improving consumer experience over manual agent checkout.
- Delivered HSD/PCI encryption and redaction features cross-service within Messaging to meet a compliance deadline implemented encrypted message storage within RDS and managed schema via Knex migrations.

Capital One Plano, TX

Intern Jun. 2024 – Aug. 2024

- Contributed to internal MLaaS Platform used that identifies anomalies for fraud detection. Data and insights from the platform save the company over \$600 million in potential losses.
- Created functionality for parameter sharing across ML workflows reducing redundancies and error in tool usage.
- · Added typing within React UI and Python SDK while preserving backwards compatibility.

Enterprise Rent-A-Car

Madison, WI

Intern May. 2023 – Aug. 2023

- Built ETL pipelines for analytics using Airflow; NestJS API to integrate Google Looker Studio in Angular app.
- Improved ML model precision by 6% using a shallow neural network model for model aggregation in PyTorch.

Wisconsin Institute for Discovery

Madison, WI

Undergraduate Researcher

Dec. 2023 - Sep. 2024

• Under Prof. Robert Hawkins, contributed to research bridging the gap between GenAI and human cognition.

Projects

Swapper | Go, React, TypeScript, RavenDB

Feb. 2024

- Won 1st place at RavenDB hackathon (out of 2000 participants) for virtual trading application.
- Developed full stack with features: spatial search, fuzzy search, user profiles, interactive messaging, and item/profile ratings.

Cryptify | Rust Jan. 2024

- Created an open source library with 12,000+ downloads used to obfuscate Rust programs at runtime and at rest.
- Includes features to obfuscate source code directly with variable renaming and direct flow obstruction.

Distributed File Transfer | Python

Sep. 2024

Designed UDP-based file transfer protocol with custom packet format, addressing scheme, and packet reassembly.

PranavBot | Node.js, AWS Lambda, API Gateway, ECR, CloudFront, Astro

Sep. 2023

• Built serverless chatbot with Lambda, ECR, and a fine-tuned LangChain model to answer questions on my website.

Leadership & Achievements

Undergraduate Projects Lab Coordinator

Dec. 2022 - Dec. 2024

• Hosted workshops, tech talks, and CS department-sanctioned events; provided tutoring to students.

MadHacks Organizer

Feb. 2023 - Dec. 2024

3x organizer of the largest hackathon at UW-Madison (650+ applicants, 300+ attendees, \$15,000+ in funding)

GitHub Campus Expert

Dec. 2023 - Dec. 2024

• Lead instructional workshops and represented GitHub within CS department of 3,000 students.

Skills