

Education

University of Wisconsin–Madison

B.S. Computer Sciences

Experience

Capital One

Chicago, IL

Software Engineer

Feb. 2025 – Present

- Full-Stack development (React/React Native + node) on the Velocity Black platform, a startup acquired by Capital One.
- Building a high-scale payment processing system for an upcoming product supporting 5M+ users and handling hundreds of thousands of daily transactions, leveraging AWS Lambda, SQS to enable fault-tolerant, seamless payment capabilities.
- Delivered compliance-critical HSD/PCI encryption and redaction within the platform's event-driven messaging system, implementing encrypted storage in RDS with Knex-managed schema migrations meeting a hard regulatory deadline.
- Automated virtual card provisioning and automated membership billing, cutting manual ops by ~200 hours/month.

Capital One

Plano, TX

Software Engineer Intern

Jun. 2024 – Aug. 2024

- Enhanced MLaaS platform that saves \$600M+ in engineering effort and utilized by fraud/anomaly detection teams.
- Implemented role-based access controls (RBAC) for ML workflows, improving platform security posture and compliance audits.
- Built parameter-sharing framework across ML workflows, cutting redundancies and reducing model deployment errors.

Enterprise Rent-A-Car

Madison, WI

Software Engineer 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.
- Published "Distributed statistical inference in social interaction networks" on human opinion dynamics vs existing AI agents.

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 and maintain open source library with 20,000+ 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

AWS Certified Solutions Architect - Associate

Aug. 2025

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

Go, Python, JavaScript, TypeScript, Rust, Java, C, C++, SQL, AWS, Kafka, React, React Native, Astro, Angular, Node.js, NestJS, Express, HTML/CSS