
EDUCATION**University of Wisconsin – Madison**

Aug. 2021 – Dec. 2024

B.S. Computer Sciences

EXPERIENCE**Capital One**

Feb. 2025 – Present

*Software Engineer**Chicago, IL***Capital One**

Jun. 2024 – Aug. 2024

*Software Engineer Intern**Plano, TX*

- Contributed to internal MLaaS Platform used for fraud detection, identifying anomalies, and data insights/analytics instrumental in saving the company over \$600 million in potential losses and overall revenue.
- 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 with legacy code.

Enterprise Rent-A-Car

May. 2023 – Aug. 2023

*Software Engineer Intern**Madison, WI*

- Built ETL pipelines for analytics using Airflow and developed NestJS API to integrate Google Looker Studio in Angular app.
- Improved ML model precision by 6% by designing a shallow neural network model for model aggregation in PyTorch.
- Migrated ML infrastructure to the cloud and created scheduled SQL queries to retrieve model data.

Wisconsin Institute of Discovery

Dec. 2023 – Sep. 2024

*Undergraduate Researcher**Madison, WI*

- Conduct research under Professor Robert Hawkins focused on bridging the gap between GenAI and human cognition.
- Developed multiple experiment applications with React and LangChain, data pipelines for result analytics as well as integrating error monitoring.

University of Wisconsin-Madison

Dec. 2022 – Dec. 2024

*Undergraduate Projects Lab Coordinator**Madison, WI*

- Hosted workshops, tech talks, and CS department-sanctioned events as well as providing tutoring to other students.
- Created platform for monitoring of lab occupancy by utilizing YOLOv7 on a Raspberry Pi with a Discord bot integration.

PROJECTS**Swapper** | *Go, React, TypeScript, RavenDB*

Feb. 2024

- Won 1st place at RavenDB hackathon (out of 2000 participants) for virtual trading economy application.
- Implemented spatial search, fuzzy search, user profiles, and interactive messaging with frontend in Typescript and React.
- On backend, designed efficient data model using saved queries for user-facing output; added adaptive index generation.

Cryptify | *Rust*

Jan. 2024

- Created an open source library with 10,000+ downloads used for obfuscating Rust programs at runtime and at rest.
- Automated macro insertion with cli tool for encrypting strings and disguising control flow in any Rust program.
- Includes optional features to obfuscate the 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.
- Developed multi-threaded server and client with per-sender rate limiting, logging, and performance metric collection.

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

Sep. 2023

- Built a serverless chatbot using AWS Lambda, ECR, and a fine-tuned LangChain model to answer questions on my website.
- Used Github Actions CI/CD to standardize Astro frontend build process and automate deployment to AWS cloud services.

ACHIEVEMENTS AND LEADERSHIP**MadHacks Organizer**

Feb. 2023 – Dec. 2024

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

GitHub Campus Expert

Dec. 2023 – Dec. 2024

- Lead instructional workshops, answered technical questions. Represented GitHub within CS department of 5,000 students.

TECHNICAL SKILLS**Programming Languages:** Go, Java, Rust, Python, JavaScript, TypeScript, C, C++, SQL, HTML/CSS**Frameworks/Libraries:** React, React Native, Astro, Angular, Node.js, NestJS, Express**Infrastructure/Dev Tools:** AWS, Google Cloud Platform, Docker, Cassandra, Spark, Kafka, Git