PRANAV DRONAVALLI

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EDUCATION

University of Wisconsin – Madison | *Cumulative GPA: 3.81/4.0*   Aug. 2021 – Dec. 2024
BS, Computer Science

EXPERIENCE

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.
- Developed functions in TypeScript and Python to recursively traverse and modify parameter schemas of component at runtime within React UI and Python SDK.
- Modernized codebase by adding typing while preserving backwards compatibility with legacy code.

Enterprise Rent-A-Car   May. 2023 – Aug. 2023
Software Engineer Intern   *Madison, WI*
- Created ETL pipelines for analytics using Airflow and developed API's in NestJS to integrate Google Looker Studio dashboards into the Angular app.
- Improved ML model precision by 6% by creating a shallow neural network model with PyTorch for model aggregation.
- Migrated ML infrastructure to the cloud and created scheduled SQL queries to retrieve model data.

Wisconsin Institute of Discovery   Dec. 2023 – Present
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 – Present
Undergraduate Projects Lab Coordinator   *Madison, WI*
- Host workshops, tech talks, and CS department sanctioned events as well as providing tutoring to other students.
- Created a real-time monitoring of lab occupancy by utilizing YOLOv7 on a raspberry pi with a discord integration.

PROJECTS

Swapper | *Go, React, TypeScript, RavenDB*   Feb. 2024
- Won 1st place in RavenDB's prize track out of 2000+ participants.
- Developed a marketplace to exchange free items supporting user messaging, spatial searching, fuzzy search, user/item reviews, and more.
- Designed efficient data models, queries, and implemented programmatic generation of database indices and created a user-friendly interface with React to support user messaging, item filtering, and user profiles.

Cryptify | *Rust*   Jan. 2024
- Created an open-source procedural **macro library** for Rust with 5,000+ downloads for runtime obfuscation.
- Developed a cli tool to automatically insert macros from the library at random points into the source.
- Includes optional features to obfuscate the source code directly with variable renaming and control flow obstruction.

PranavBot | *Node.js, AWS Lambda, API Gateway, ECR, CloudFront*   Sep. 2023
- Built a serverless chatbot for my website using AWS Lambda, ECR, and a fine-tuned LangChain model to answer questions about me.
- Implemented CI/CD pipeline using GitHub Actions to automate AWS deployment on each successful build.
- Integrated chatbot into Astro/Tailwind frontend using API Gateway.

ACHIEVEMENTS AND LEADERSHIP

MadHacks | *Lead Organizer*   Feb. 2023 - Present
- Organized and advised multiple hackathons with 650+ applicants, 300+ attendees, and $15,000+ in funding.

GitHub Campus Expert | *Leadership*   Dec. 2023 – Present

TECHNICAL SKILLS

Programming Languages: Go, Java, Python, JavaScript, TypeScript, C, C++, SQL, HTML/CSS
Frameworks/Libraries: React, React Native, Astro, Angular, Node.js, NestJS, Express
Infrastructure/Dev Tools: AWS, Docker, Casandra, Spark, Kafka, GCP, Git, Github Actions, Linux, macOS, Windows