

Pranav Dronavalli

913-260-1499 | dronavalli@wisc.edu | [linkedin.com/in/pranavdronavalli](https://www.linkedin.com/in/pranavdronavalli) | github.com/dronavallipranav | dronavalli.dev

Education

University of Wisconsin - Madison

B.S in Computer Science, Mathematics 3.95/4.0 GPA

Madison, WI

Sep. 2021 – May 2025

Experience

Software Engineer Intern

May. 2023 – Aug. 2023

Integral

Madison, WI

- Improved ML model precision by 6% by creating a shallow neural network model with PyTorch for the model aggregation
- Migrated ML infrastructure to the cloud, and created scheduled SQL queries to retrieve model data from MySQL
- Created ETL pipelines using airflow to move data from MySQL, transforming it in BigQuery, and adding data as dimensions to LookML model
- Developed API's in NestJS to integrate Google Looker Studio dashboards into the Angular app

Undergraduate Researcher

Dec. 2023 – Present

Wisconsin Institute for Discovery

Madison, WI

- Conduct research under professor Robert Hawkins focused on bridging the gap between GenAI and human cognition
- Experiment with new generative agent memory architecture to help agents escape their LLM limitations by attempting to incorporate certain human dynamics
- Developed experiment's application and data pipelines for result analytics

Undergraduate Projects Lab Coordinator

Dec. 2022 – Present

University of Wisconsin-Madison

Madison, WI

- Supervised the lab, allowed students to use our hardware, and helped members with classwork
- Maintained our server infrastructure including a kubernetes cluster and expanded our infrastructure capabilities
- Organized computer science related events for students including: tech talks, workshops, and most notably hackathons with over 300 participants

Projects

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

Sep. 2023

- Built a serverless chat bot application for my website using AWS Lambda, ECR (Docker), and a fine-tuned LangChain model to answer questions about me on my portfolio website
- Integrated chatbot into Astro/Tailwind frontend using API Gateway
- Implemented CI/CD pipeline using Github Actions to automate AWS deployment on each successful build

IncentiVise | Node.js, Go, PostgreSQL, React

Sep. 2023 - Present

- In process of developing SaaS-based startup MVP, integrating a diverse tech stack encompassing Node.js, Go, PostgreSQL, and React
- Built backend on Postgres with a separate concurrent Go service capable of handling many simultaneous requests
- Incorporated Integration testing with Jest testing all endpoints of Node API

GameBoy Emulator | C, CMake

June. 2023 - Present

- Implemented the entire GameBoy CPU instruction set in a reusable and modular way
- Created a Memory Management Unit that models the CPU's address space and handles all memory read/writes, program flags, and permissions
- Built a comprehensive CUnit testing suite as well as creating CI workflows in Git to automate testing and used CMake to automate the build process
- Developed a virtual GameBoy GPU (PPU) to render backgrounds, windows, and sprites and handle screen refreshes

People Counter | Python, OpenCV

Mar. 2023

- Increased UPL participation by creating a People Counter which lets people know when the lab is open to the public
- Utilized the YOLOv7 model on a Raspberry Pi to count people in the lab with discord server integration

Technical Skills

Languages: Java, Python, C/C++, JavaScript, Go, TypeScript, SQL, HTML/CSS, R

Frameworks: React, Angular, Astro, Node.js, NestJS, Express

Infrastructure/Dev Tools: AWS, Docker, PostgreSQL, Cassandra, Spark, Kafka, GCP, Git, GitHub Actions, VSCode