

# Pranav Dronavalli

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## 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 (subsidiary of Enterprise)

Madison, WI

- 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
- Improved ML model precision by 6% by creating a shallow neural network model with keras and adding it to the model aggregation
- Migrated ML infrastructure to the cloud, and created scheduled SQL queries to retrieve model data from MySQL

### Undergraduate Projects Lab Coordinator

Mar. 2023 – 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

### CaTaPuLT Scratch Club Leader

Sep. 2022 – June. 2023

Glenn Stephens Elementary

Madison, WI

- Led an after-school Scratch club at an elementary school which introduced kids to computer science
- Designed a weekly curriculum to teach 30 kids the fundamentals of programming

## 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, Sequelize, Express.js, Jest

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 DB with a raw Go connection and Sequelize as an ORM for my Express API
- Leveraged Go to create a concurrent service capable of handling many simultaneous user requests with minimal latency
- 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