Pranav Dronavalli

913-260-1499 | dronavalli@wisc.edu | linkedin.com/in/pranavdronavalli | github.com/dronavallipranav | dronavalli.dev

Education

University of Wisconsin - Madison   Madison, WI
B.S in Computer Science, Mathematics 3.95/4.0 GPA   *Sep. 2021 – May 2025*

Experience

Software Engineer Intern   May. 2023 – Aug. 2023
Entegral (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

Projects

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

Ad Impression Predictor | *Python, sklearn*   Oct. 2022
- Created a binary logistic regression model to determine if a user is likely to click on an ad with 92 percent cross-val accuracy
- Utilized sklearn libraries for efficient fitting, scoring and preprocessing

People Counter | *Python, OpenCV*   Mar. 2023
- Increased UPL participation by 20% 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

Portfolio Migration (PranavBot) | *AWS Lambda, API Gateway, ECR, CloudFront*   Sep. 2023
- Encountered a relatively undocumented issue when creating a serverless backend for my portfolio's chatbot with a dependency's binary (hnswlib-node) which was not working inherently with AWS lambda which power Netlify's serverless functions on my personal website.
- Successfully addressed the issue by migrating site to AWS, containerizing the required libraries backend using Docker, pushing image to ECR, and creating AWS Lambda functions that run the image when triggered by API Gateway.

Orginizations

Undergraduate Project Lab Coordinator   Mar. 2023 – Present
University of Wisconsin-Madison   *Madison, WI*
- In charge of supervising the lab, allowing students to use our hardware, and helping members with classwork
- Maintaining our server infrastructure including a kubernetes cluster and expanding our infrastructure capabilities
- Organizing computer science related events for students including: tech talks, workshops, and most notably hackathons with over 300 participants

Volunteer Experience

Youth 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 kids the fundamentals of programming

Technical Skills

Languages: Java, Python, C/C++, JavaScript, TypeScript, SQL, OCaml, HTML/CSS, R
Frameworks/Dev Tools: React, Angular, AWS, Node.js, NestJS, GCP, Flask, Git