# Pranav Dronavalli

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## 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 – Present
*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
- Transformed feature columns after analyzing user data with sklearn transformers
- Utilized sklearn libraries for efficient fitting, scoring and preprocessing

**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

**Double Encrypter** | *Node.js, GCP*                                                                   Dec. 2022
- Self-implemented a RSA algorithm and used Google's cloud translate API as a second layer of obfuscation for a Hackathon project

## Organizations

**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**: React, Angular, Node.js, NestJS, Flask
**Developer Tools**: Git, GCP, VS Code, PyCharm, IntelliJ, Eclipse
**Libraries**: pandas, tidyverse, NumPy, Matplotlib, TensorFlow