Justin I. Hwang

Sunnyvale, CA 94087 | (650) 996-9097| justin@goliath.org | jhwang04.github.io | U.S. Citizen

Objective

Computer Engineering major with concentrations in Computer Architecture and Robotics & Autonomous Systems. Strengths include software verification, circuit design, and teaching. Looking for a digital design, formal verification, software engineering, or firmware engineering **Internship/Co-Op starting Spring or Summer 2025**.

Education

Georgia Institute of Technology | Atlanta, GA *August 2023– Present*
Bachelor of Science in Computer Engineering, GPA 4.00 *Expected Graduation, May 2027*
Minor in Korean *Expected Completion, Dec 2024*

Skills

Programming: Java (Gradle, Reflections, JavaFX, Javadocs), C++, LaTeX, Python, Flutter
Platforms: MacOS, Linux, Windows 10
Hardware: STM-32, Raspberry Pi, Arduino
Software: Altium – Autodesk EAGLE – Fusion 360 – Emacs - IntelliJ – VSCode – PlatformIO – Arduino IDE – Git/Github/Gitlab
Languages: English (native), Korean (learning)

Experience

Hytech Racing | Low Voltage and Firmware Lead | Atlanta, GA *June 2024 - Present*
Formula SAE Electric Team
● Responsible for PCB design, PCB manufacturing, and firmware programming (C++) for our 2025 electric race car.
● Designs the Vehicle Control Board using Altium Designer.
● Uses C++ (PlatformIO) to code boards to communicate over Ethernet, CAN, and UART. Contributed to unit-testing framework.
● Developed SoC (state of charge) estimation code to initialize and integrate the state of charge based on current draw.
● Wrote firmware to communicate with VectorNAV IMU through its binary interface, format the bytes, and write to CAN.

Teaching Assistant | Object Oriented Programming | Atlanta, GA *December 2023 - Present*
● Individually recruited by professor for writing extensive JUnit-style software verification files on the class forum.
● Overhauled all recitation slides for Fall 2024 to include black-box abstraction and follow consistent teaching principles.
● Leads weekly recitations, writes auto-grader tests, holds office hours, grades homework assignments and exams.

Covrick LLC | Senior Inventory Analyst | San Jose, CA *May 2021 – July 2023*
E-commerce seller on Amazon and EBay.
● Created 250 shipments, totaling $90,000 in revenue. Trained 5 new employees. Wrote a portion of the employee handbook.

Projects

Software Verification for Data Structures and Algorithms *2023 - 2024*
● Published 18 JUnit-style tester files on the Object Oriented Programming and Data Structures & Algorithms class forums.
● Achieved 4,000+ downloads across all homework assignments with over 1,200 test cases.
● Used Java Reflections and method annotations to brute-force check data structures and visualize them with ASCII.

Minecraft Plugins / Redstone Computers *2019 - Present*
● Programmed Java plugins for Minecraft servers using Spigot/Bukkit API, including ID verification, server security, and games.
● Built Minecraft representations of digital systems, including logic gates, combinational circuits, and 7-segment displays.

Relevant Coursework

In progress: Programming for Hardware & Software Systems, Circuit Analysis, Digital Design Lab, Differential Equations
Completed: Digital Systems Design, Data Structures & Algorithms, Physics Electricity & Magnetism, Discrete Math

Interests/Skills

Technical: Software verification, circuit design, digital design, firmware engineering, software engineering, education.
Non-Technical: Running, Soccer, weightlifting, laser cutting, piano, singing in choir, cooking high-protein meals.