RONALD GARCIA

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EDUCATION

Johns Hopkins University, Baltimore, MD
Mechanical, Computer, & Electrical Engineering

Enrolled: August 2022 — Expected: May 2026
Overall GPA: 3.90

EXPERIENCE

Manufacturing Student Tech
TA

Baltimore, MD
October 2023 - Today

- Work with Manufacturing engineers/machinists to design solutions for clients, ranging from Johns Hopkins Medical Campus to local startups.
- Designed parts in SolidWorks for over 25 clients, reworked identification system in C++/React.JS, trained in the Manufacturing Student shop, and worked in a team of engineers to ideate and produce prototypes.

Capital Educators
SAT Teacher

Baltimore, MD
January 2024

- Teach a class of no more than 10 students and improve their SAT/ACT scores by over 100 points. Meet with students every week on Sundays and teach about math section topics and techniques.

JHU Physics Department
Learning Assistant

Baltimore, MD
January 2024

- Hosting office hours and leading TA sections for Physics 2 students, tutoring over 50 students a week.

JHU Learning Den
Tutor

Baltimore, MD
September 2023

- Personalized one-on-one tutoring environment with students, in Calculus I, II, III, Physics 2, Intro to Mechanics 2, Electronics and Instrumentation, Gateway MATLAB, and Physics 1.

PROJECTS

Graphing Calculator
https://github.com/jhu-ip/2023-spring-final-ckolisk1-rgarci47-mfaust4

Baltimore, MD
January 2023 - May 2023

- Worked in a team to develop a graphing calculator that can handle addition, subtraction, division, multiplication, sin, and cos in Polish Notation. Developed using C++.

Cache Simulator
August 2023 - Today

Baltimore, MD

- Worked in a team to develop a cache simulator that reads a memory trace of load and store operations, determining the amount of misses/hits, and the total amount of clock cycles (with an adjustable memory read penalty). The cache can be chosen to be write-allocate or no-write-allocate, write-through or write-back, least-recently-used or fifo eviction policy, and the number of sets, cache lines, and bytes per cache line can be chosen.
- Implemented in C++ with Makefile.

WSE Identify
August 2023 - Today

Baltimore, MD

- Talked with clients to develop a WSE Machine Student Machine Shop identification system. JHU WSE Mechanical Engineering students, both undergraduate and graduate, could gain access to the shop.
- The application is developed using Vite to scaffold a React with Typescript application. Shadcn components along with Tailwindcss are used for the front end, and Better SQLite 3 is hosted using Hono for the backend. The physical apparatus uses a Raspberry Pi system that communicates with a main server (hosted with Hono).

SKILLS

- **Relevant Coursework:** Mastering Electronics I & the Lab, Intermediate Programming, Data Structures, Computer System Fundamentals, Full-Stack Javascript.
- **Programming:** C++, Java, C, Python, MATLAB, C#, Javascript, HTML, CSS, Typescript, React, Better SQLite 3.
- **Software:** JupyterLab, Solidworks, LTSpice, MATLAB Simulink, Visual Studio Code, Overleaf.
- **Communication:** Leadership, over 8 years of tutoring/teaching experience.