David Calderon

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| **Education** | | | | |
| **Georgia Institute of Technology (Atlanta, GA)** | | August 2022 – December 2025 | | |
| * Senior, BS/MS in Computer Science; Threads: Systems/Architecture and Information Internetworks; GPA: 3.92 * Relevant Coursework: Data Structures and Algorithms (Java), Advanced Computer Architecture (C++), Operating Systems (C), Computer Systems/Networking (C), Database Implementation (C++), Grad. Machine Learning (Python) | | | | |
| **Work Experience** | | | | |
| **Google: Software Engineering Intern (Sunnyvale, CA)** | | Summer 2024 | | |
| * Developed monitoring infrastructure for Google’s server cooling patterns and statistics for DIMM components by creating a data processing and analysis pipeline using C++ and Flume Pipelines. * Created a dashboard with 15 data views for various DIMM metrics, each which displays aggregated information across Google’s millions of servers over a 3-year (and gradually increasing) window, using SQL and dashboarding tools. * Modified data pipelines and dashboard queries based on adapting requirements to ensure final end-user satisfaction. | | | | |
| **Amazon: Software Development Engineer Intern (Austin, TX)** | | Summer 2023 | | |
| * Doubled average ad targeting affinity values for Amazon Audio services by creating new algorithm in AWS Lambda with Java for categorizing audience insight data, for improved ad targeting services. * Increased number of insights used for data gathering/dashboard population by 25x by communicating with internal API team for best usage of API; created Amazon S3 services to cache collected data into CSV files for data analysis. * Researched and implemented additional features, such as filtering of low-relevance data, building feature flags for insight API requests, and logging of formatted data for more informed development decisions. | | | | |
| **Organizations** | | | | |
| **RoboJackets: RoboNav Team - Software Lead** | | | September 2022 - Present | |
| * Leading software team of 20 members to develop software for a Mars rover for the University Rover Challenge. * Created image processing node to process identifications and orientations of ARUCO tags using C++ and ROS2. * Developed software/firmware for commands to be consumed/processed by a Teensy microcontroller, as well as for transmitting/processing GPS and IMU data over Serial, using C++. * Working on wheel encoder feedback transmission over UDP for ROS2 integration, using C++. | | | | |
| **GT HIVE ECE Makerspace – Embedded Systems Master Peer Instructor** | Jan 2024 – Present | | | |
| * Assisting end users primarily with embedded systems development, primarily Arduino, ESP32, and Raspberry Pi. * Developing occupancy tracker to track the number of people in the makerspace, using Arduino and IR hardware. | | | | |
| **Technical Projects** | | | | |
| **Relevant Class Projects** | | | | Spring 2024 |
| * Virtual Memory Optimization: improved virtual memory performance by implementing copy-on-write and zero-page allocation strategies, using C in the xv6 OS. Involved tracking usage and changes to memory by all processes. * Custom Scheduling Algorithms: implemented Round Robin/FIFO with priority scheduler, as well as the Linux CFS scheduler, using C in the xv6 OS. Involved tracking the metadata of various processes and re-scheduling periodically. | | | | |
| **Stock Trading Simulation –** [**https://stock-trading-simulation.herokuapp.com**](https://stock-trading-simulation.herokuapp.com) | | | | Spring 2022 |
| * Developed a 5-page website to allow users to trade artificial stocks with real-time market values, add friends and trade with them, and track gains in investment, using ReactJS, MongoDB, NodeJS, and Express. * Used an external stock price API and optimized to minimize calls to it by caching data in the MongoDB database. | | | | |
| **Super Metroid Game Recreation - youtube.com/watch?v=va7BnZfb\_rY** | | | | Fall 2021 |
| * Recreation of Nintendo’s 1994 game “Super Metroid” using C# and the Unity game engine. * Developed modular scripts for game components and defined their interactions to allow for game functionality. | | | | |
| **Skills/Interests** | | | | |
| **Technical:** C, C++, Linux, Java, C#, Python, SQL, HTML/CSS/JavaScript, NodeJS/ExpressJS, MongoDB, ReactJS  **Languages:** English (native), Spanish (native) | | | | |