David Calderon

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Education

Georgia Institute of Technology (On-Campus: Atlanta, GA)   August 2022 – December 2024
- Senior, B.S. in Computer Science, Minor in Robotics; Threads: Systems and Architecture, Intelligence; GPA: 4.0
- Relevant Coursework: Object Oriented Programming, Data Structures and Algorithms, Computer Architecture, Computer Systems and Networking, Software Engineering Design, Machine Learning, Design/Analysis of Algorithms

Work Experience

Amazon: Software Development Engineer Intern (On-Site: Austin, TX)   May - August 2023
- Increased ad targeting affinity values for Amazon Audio services by 100% (doubled) by creating new algorithm in AWS Lambda/Java for categorizing audience insight data, for improved ad targeting services.
- Increased number of insights used for data gathering/dashboard population by 2500% by communicating with internal API team for best usage of API; created Amazon S3 services to cache collected data into 12 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.
- Initiated research to create word vectorization deep learning model for automatically categorizing unseen insights.

GT Aerial Robotics and Experimental Autonomy Lab: Undergrad Researcher   May 2023 - Present
- Working on behavior tree integration for PhD research project involving drone behavior and control.
- Involves working with packages in ROS2 (Humble) and C++ with Ament Cmake on Ubuntu 22.04.

Organizations

RoboJackets: RoboNav Team - Software Lead (from April 2023)   September 2022 - Present
- Leading team of 20 software developers to develop code for the University Rover Challenge.
- Involves building of ROS2 nodes (both in C++ and Python) for communication of ROS2 topics/data channels.
- Projects include perception (OpenCV), autonomous navigation and SLAM (Nav2), arm control (MoveIt2), hardware interfacing and abstraction (ROS2 Control) and web interface integration for teleoperation (ReactJS, HTML, CSS)

Georgia Tech Vertically Integrated Project: LIDAR Lab – Undergrad Researcher   August 2023 - Present
- Working with arena-ros-nav library along with custom libraries to build deep reinforcement learning alternatives to improve speed and accuracy of multi-agent planning.
- Involves usage of Linux, ROS (Noetic), C++, Python to create, build, test, and use packages.

GT WebDev: Project "DegreeActuallyWorks" – Software Developer   September - December 2022
- Worked on software dev team for a more approachable design for Georgia Tech's degree planning service/software.
- Used Figma for visual designs, UI in HTML/CSS, and full-stack logistics with React, MongoDB, Express, NodeJS.

Technical Projects

Personal Site – https://david-calderon.herokuapp.com   Summer 2022
- Static application with Angular that focuses on CSS and JS styling and animation; presents projects and biography.
- Features information about projects I have worked on the past for people to view my professional experience.

Stock Trading Simulation – https://stock-trading-simulation.herokuapp.com   Spring 2022
- Multi-page and comprehensive website for allowing users to trade artificial stock with real-time market values.
- Utilizes ReactJS, MongoDB, React/Express to allow for full-stack development, with deployment on Heroku.
- Highly data driven, used an external stock price API and optimized to minimize calls to it; uses databases, REST API.

Super Metroid Game Recreation - youtube.com/watch?v=va7BnZfb_rY   Fall 2021
- Comprehensive recreation of Nintendo's 1994 game "Super Metroid" using C# and the Unity game engine.
- Required work in object interaction, graphical/audio implementation/optimization, and physical applications.

Skills/Interests

Technical: Java, Python, C/C++, C#, Unity, HTML/CSS/JS, NodeJS/ExpressJS, MongoDB, ReactJS, Angular, R, SQL
Language: Proficient in English and Spanish (read/write/speak)