Gia Alexis Garado

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Professional Summary

Driven, curious, and hard-working computer engineer passionate about embedded systems engineering. Looking for an opportunity to engage with challenging technical problems where I can apply my creative problem solving skills and grow.

EDUCATION

UC Santa Cruz
B.S. Computer Engineering
Concentration: Robotics & Control
Expected Graduation: June 2022
Major GPA: 3.47

Relevant Skills
Embedded systems
Linear algebra, numerical analysis
Data structures and algorithms
Git, Unix

Languages & Software
Proficient: C, ARM & MIPS assembly, MATLAB, CSS, HTML

Familiar: Arduino, JavaScript, ROS, Gazebo, RViz, Python

PROJECTS

Battle Boats
June 2019

A one- or two-player game of battleship developed on a chipKIT Uno32 development board with a Microchip PIC32 embedded microcontroller

- Developed the gameplay mechanics and supporting game libraries required for the game's full functionality
- Implemented artificial intelligence that won 60% of the time for one-player version and serial communication protocol for two-player version with two microcontrollers

Morse Code Decoder
March 2019

A Morse code encoder and decoder comprised of various I/O peripheral devices and programmed on an embedded microcontroller

- Utilized modular and event-driven programming paradigms in implementing a functional finite state machine reliant on events handled by interrupt service routines for triggering state changes and handled navigation of recursive data structures to develop a working, accurate end product

WORK EXPERIENCE

Formula 1/10th
Perception & Control Team
September 2019 - Present

- Collaborating with team members of different technical disciplines to develop embedded software for a self-driving miniature race car based on high-level design specifications with ultimate goal of competing in the international Formula 1/10th autonomous racing competition
- Developing a LiDAR-based simultaneous localization and mapping algorithm that generates a live-updating 3D environment map for use with a geometric obstacle avoidance algorithm, allowing for car's autonomous navigation through an unknown environment

Engineers Without Borders
Treasurer
June 2019 - Present

- Managing finances for a non-profit organization committed to undertaking engineering projects that help empower international communities to meet their basic human needs
- Currently organizing an on-site hardware and software installation of renewable energy systems on an underserved Native American reservation to help alleviate the community's ongoing energy crisis
- Organizing a workshop to teach students Arduino hardware and software fundamentals to build a solar-powered battery charger to increase awareness and understanding of solar energy systems

Computer Systems and Assembly Language Tutor
April 2019 - Present

- Utilizing effective communication techniques to teach concepts involving digital logic, compilation and assembly, computer architecture, and basic computer hardware and software while facilitating a positive, productive learning environment for students
- Using acute attention to detail to thoroughly review, debug, optimize, and grade 300+ student digital logic/assembly lab assignments

Tech4Good Lab
Research Assistant
January 2020 - Present

- Developing UI/UX components and binding data for Compass, a progressive web application to support career journeys through authentic reflection, goal-setting, and mentorship
- Fostering and supporting the ongoing growth and practices of agile development within the team to increase efficiency and productivity