QUINN HANDLEY

COMPUTER ENGINEER

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EDUCATION

Oregon State University | Honors B.S. in Electrical & Computer Engineering
Sep. 2016 - Mar. 2021
Minor in Computer Science
Summa Cum Laude | GPA: 3.95

ACADEMIC EXPERIENCE

AIAA Hybrid Rocket Senior Capstone | Launch & Flight Controls
Sep. 2019 - Jun. 2020

- Designed and assembled an AVR µcontroller in KiCad with an embedded Ethernet controller to facilitate a network link between launchpad and grounded rocket; firmware written in C on top of FreeRTOS.
- Created Python scripts to control 10+ static fire subscale rocket tests and record motor chamber pressure data with Raspberry Pi 3 to characterize grain geometries/mixtures and guide mechanical design of full-scale rocket.
- Worked extensively with a diverse group of mechanical engineers to produce launch & flight control requirements and subsequently adapt to new/changing requirements in a fast-paced environment.

Honors Thesis | Research and Experiential Learning for Undergraduates (RELU) Student
Apr. 2018 - Feb. 2020

- Conducted a comparative study to explore the effects of gamification on participant learning and understanding within an engineering-based hackathon event.
- Collected data from over 30+ participants across two hackathon events with two online surveys created with Qualtrics; statistical analysis with SPSS.
- Presented and successfully defended thesis before committee members and attending audience.

PROFESSIONAL EXPERIENCE

Cisco Systems | BMC Software Engineer Intern
Jun. 2020 - Dec. 2020 | Beaverton, OR (fully remote)

- Maintained BMC software through a series of bugfixes, package updates, and kernel patches.
- Developed a telemetry daemon written in C to collect and store server thermals for Cisco's Intersight SaaS.
- Implemented a C wrapper to interface existing Cisco applications with ADC driver for new platform's BMC.

Datalogic | R&D Computer Engineer Intern
Apr. 2019 - Sep. 2019 | Eugene, OR

- Optimized C++11 library for image processing applications mainly with Arm SIMD extension.
- Achieved 7.5x speedup on the processing bottleneck for a new linear barcode localizer application.
- Regularly coordinated weekly meetings with remote colleagues in Italy to synchronize development.

TekBots | College of Engineering (EECS) Student Assistant
Apr. 2018 - Mar. 2020 | Corvallis, OR

- Assisted students with electrical/software questions pertaining to labs, projects, and homework.
- Operated storefront register to help 5+ daily customers purchase electronic components and lab supplies.
- Managed inventory by keeping accurate on hand part counts and performed weekly upkeep on ECE lab spaces.

PROJECTS

Warp Core Lite (https://github.com/qhandley/warp-core-lite)
A simple interactive CLI application written in Python for rocket tests on a RPi host. Designed to be modular and easy to use, its purpose is to provide a platform to collect initial test data and tune launch sequence parameters.

Prototype Insulin Delivery System
Made a prototype for a bioengineering research group wanting to create an autonomous insulin delivery system. Wrote a Python script to retrieve glucose samples via USB from a Dexcom continuous glucose monitor and control a syringe with a Teensy µcontroller and precision stepper motor.

Portable Arcade
Battery-powered RPi arcade system for pure nostalgia. Everything housed in a custom wooden enclosure to hold joystick, arcade buttons, and speakers. Old ROMs emulated with RetroPie on top of Raspbian.

SKILLS

Proficient: C/C++, Python
Knowledgeable: Linux, Bash, Git, GNU Make, RTOS, KiCad, serial protocols (I2C, SPI, RS-232), SIMD
Tools: Oscilloscopes, digital multimeters, packet analyzers (Wireshark), debuggers (gdb), profilers (gprof)

LEADERSHIP

CoE Center for Diversity & Inclusion
Book club facilitator | Summer/Fall 2020

Eta Kappa Nu (HKN) Honor Society
Secretary | Sep. 2019 - Jun. 2020

ResiSTORE Student Electronics Store
Volunteer clerk | Apr. 2017 - Mar. 2018