

SUMMARY OF QUALIFICATIONS

Leadership: Extensive project management, team coordination, and technical communication experience

Electronics Development / Test: ModelSim, LTSpice, Arduino, Oscilloscopes, Signal Generators

Software Development: Linux, Git, Robot Operating System, OpenCV, TCP/IP, UART, CMake

Programming: Python, Java, SystemVerilog, Bash, C/C++, RISC-V Assembly

EDUCATION

University of Washington | Seattle, WA

Bachelor of Science, Electrical Engineering | GPA: 3.56 (June 2021)

Highlighted Coursework: Embedded Systems, Computer Architecture, Data Structures / Algorithms,
Hardware / Software Interfaces, Digital Circuit Design, Human Centered Design

WORK EXPERIENCE

Research Assistant, UW Applied Physics Laboratory (June 2019 – Current)

- Developing robotics navigation software for underwater environments.
- Integrated a Multibeam Sonar with Robot Operating System in C++ to transmit, visualize incoming data.
- Automated workflow of computer vision experiments using Bash, Python, OpenCV for stereo camera calibration, image processing, training and evaluation of YOLO Darknet image classifiers.
- Implementing and optimizing real-time pose tracking of a Sonar in Python and C++.

Intern, Office of Naval Research (June 2020 – August 2020)

- Lead a team of 6 interns assigned to various Naval research projects, rotating topics biweekly.
- Met with Subject Matter Experts to identify project deliverables, plan milestones, coordinate team efforts.
- Made swarm AI simulations in NetLogo to evaluate threat response of existing Naval technology.
- Created visualization tools in Python, correlating ocean characteristics with benthic experiment results.
- Presented work and findings to 20+ Naval officers, 60+ interns for evaluation.

OTHER EXPERIENCE

RISC-V Processor, Class Project (January 2021 – Present)

- Implementing a 5-stage, pipelined 32-bit RISC-V processor in SystemVerilog to run arbitrary C code.
- Compiled and loaded on to a TinyFPGA BX development board using an open-source toolchain.
- Testing components using ModelSim simulations, verifying board behavior via serial communication.

Synth of Self, Personal Project (March 2020 – Present)

- An interactive media project on computer vision and auditory embodiment, written in Python.
- Uses OpenCV, TouchDesigner, and TCP/IP to generate audio and visuals that respond to movements of individuals in 2D space, encouraging harmonious arrangement.

Scholarship Chair, Sigma Nu Fraternity (January 2020 – January 2021)

- Developing a culture of support and personal growth, upholding an average GPA of 3.49.
- Aiding members struggling with coursework through mentorship programs and personal meetings.
- Consulting with alumni for advice, feedback, and resources to better support members in their studies.

Embedded Battery Management System, Class Project (January 2020 – March 2020)

- Implemented a Real-Time Operating System for an embedded battery management system.
- Wrote code in Arduino to schedule tasks, execute interrupts, communicate with peripherals via UART.
- Debugged and verified real-time behavior using Oscilloscopes.