ERIC SOUDER

(604) · 219 · 5682 ⋄ eric@souder.ca

EDUCATION

University of British Columbia *September 2020 - Present*
BASc in Engineering Physics

EXPERIENCE

UBC Rocket *Vancouver, BC*
Avionics Team Lead - Firmware *September 2020-Present*

- Managed a team of 5 engineers and computer scientists developing firmware and hardware designed to take a rocket to the edge of space and back.
- Overhauled CMake build system and refactored C code into manageable libraries, simplifying testing and development.
- Developed several critical components of the flight firmware in C using FreeRTOS and MCUXpresso, including protocols to enable software-in-the-loop testing with the Unity framework.

Zaber Technologies *Vancouver, BC*
Embedded Firmware Co-op *January - April 2022*

- Developed firmware and tests for Zaber's in-house STM32 PCBs using C++, Make, Python, and GDB.
- Lead feature development from stakeholder consultation to code delivery, enabling enhanced modes of sub-micron device calibration.
- Created and resolved tickets, investigated bugs, and ran daily standup meetings when required.

UBC Department of Computer Science *Vancouver, BC*
Teaching Assistant *September - December 2021*

- Assisted with in-lecture activities, labs, and exams to help teach C to first-year engineering students.
- Worked specifically with EAL students to build English fluency at the same time as technical skills.

PROJECTS

Autonomous Robot Project *Summer 2022*
ENPH 259 - Instrument Design

- Developed C++ firmware to allow a small robot to autonomously navigate an obstacle course using sensor fusion and PlatformIO.
- Designed high-level software and hardware architectures using a modular infrastructure for rapid development and prototyping.
- Designed and manufactured motor driver and main computer PCBs with Altium Designer.

Showcaser *Summer 2021*
Personal Project

- Developed a Github App using Python 3 to automatically update a repository with new content any time a linked repository receives a pull request.
- Communicated with the Github REST API using the Python Asyncio library and implemented customizable settings with simple JSON-based configuration files.

TECHNICAL STRENGTHS

Languages	C++, C, Python, MATLAB, Java, Javascript, Bash, HTML/CSS
Technologies	UART, SPI/isoSPI, CAN, I2C
Tools & OS	Altium, GDB, Git, Jenkins, Make, Cmake, Linux, Windows