ERIC SOUDER

(604) · 219 · 5682 ◇ eric@souder.ca

EDUCATION

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

EXPERIENCE

Rocket Lab Space Systems   *Toronto, Ontario*
Software Intern   *May 2024 - August 2024*

· Developed desktop applications for automated hardware testing, programming, and validation using Python to support production of high-reliability spacecraft electronics.
· Developed Python API to communicate with hardware test equipment in order to support the automation of spacecraft R&D testing.
· Rebuilt legacy spacecraft component firmware build systems in modern CMake and transitioned them to cloud-based services, enhancing traceability, reliability, and integration with CI/CD tools.

Moon and Mars Industries   *Vancouver, BC*
Avionics Engineer   *January 2023 - September 2023*

· Designed, built, and validated the STM32 microcontroller-based flight computer for a liquid bipropellant suborbital vehicle using KiCad.
· Developed modular and efficient C++ firmware from the ground up based on the ARM CMSIS layer, from build toolchains to real-time task scheduling to high-level flight logic.
· Designed and built an automated firmware and hardware continuous integration test system using Make and Unity for C++ unit testing and PyTest for hardware-in-the-loop tests.

UBC Rocket   *Vancouver, BC*
Avionics Team Lead - Firmware   *September 2020 - September 2023*

· 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 and testable libraries.
· Developed several critical components of the flight firmware in C using FreeRTOS and MCUXpresso, including state machines and communication interfaces.

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

· Developed firmware and tests for Zaber's motion control devices using C++, Make, Python, and GDB.
· Lead feature development from stakeholder consultation to code delivery, enabling enhanced modes of sub-micron device calibration.
· Worked within the agile methodology to create and resolve tickets, investigate bugs, and run standup and sprint planning meetings.

TECHNICAL STRENGTHS

Languages	C++, C, Python, Bash, MATLAB, Java, Javascript, HTML/CSS
Hardware	Serial Protocols, Power Management, Sensor Interfacing, MCU Interfacing
Software & OS	Git, GDB, PDB, Altium, KiCad, CI/CD tools, Make, Cmake, Linux, Windows