ERIC SOUDER

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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, May 2025 - August 2025*

- Architected, built, and deployed a Python-based hardware testing framework and test orchestration application using FastAPI and Pydantic, enabling automated testing, programming, and validation of extremely high-reliability spacecraft electronics.
- Developed, supported, and evolved new and legacy desktop tools using Python and Electron/TypeScript, supporting production technicians and engineers on the manufacturing floor.
- Developed Python APIs to communicate with hardware test equipment to support both production and R&D testing improvements.
- 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 an 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 flight firmware into unit-testable libraries.
- Developed flight firmware in C using FreeRTOS and MCUXpresso, including mission logic 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