# Cole Fuerth – Embedded Software & AI

🌐 colefuerth.github.io | ⓞ colefuerth | ✉ colefuerth@gmail.com | ☎ 519.300.2877

## SKILLS

**Languages** : Python, C/C++, Make, Java, Rust, Bash, Nix
**Environments** : Embedded linux on ARM and
**Dev environment** : Pop!_OS or Ubuntu, with my dot-files setup on it.

## EXPERIENCE

**Stealth Startup**                                   January 2025 – Present
*Software Engineer*                                       Marina Del Rey, CA

- Embedded linux work with Rust, Bash, Nix, U-Boot.
- U-Boot board bringup, BMS firmware, PubSub architecture, automated testing, etc.

**Satcom Direct Avionics**                           August 2023 – January 2025
*Embedded Linux Software Developer*                              Ottawa, ON

- Primarily worked on OpenWRT-based modems and routers that used the U-Boot bootloader; included I2C drivers and firmware upgrades. Products range across ARM, ARM64 and x86 architectures.
- Created automation tools for rapid software testing using QEMU to emulate proprietary hardware.

**BMSLabs Windsor**                                     Jan. 2022 – Apr. 2023
*Battery Management System Firmware Engineer*                   Windsor, ON

- Developed a cloud-based database and AI-powered SOC-estimation tool for Battery Management Systems using Python, as well as a fork of the LibreBMS firmware to collect data over MQTT and test the estimation tool.
- Made a (separate) dynamic interface between **I2C/UART** on **Arduino** and **Python** over USB using JSON packets, allowing for real-time data collection and analysis for thesis projects.

**Smyth Innovations**                                November 2021 – July 2022
*Embedded Electronics Engineer*                                Chatham, ON

- Developed a custom ECU for an RD400 motorcycle using **EasyEDA** for board design, and **C++** for software development. Custom wiring and PCB assembly done by hand.

## PROJECTS

**Electric Motorcycle  / Longboards**

- Programmed and assembled an electric dirt-bike using an **Arduino Mega** for control with **C++**, a touchscreen display, custom aluminum panels, isolated inputs and outputs, and **all-custom power distribution and analog sensing**, mounted on a stripped frame.
- Motorcycle was later stripped of cells to build from-scratch electric longboards, with custom 3d printed electronics enclosures, batteries and mounting hardware.

## EDUCATION

**University of Windsor**                            September 2020 - April 2023
*BSc[H] Computer Science with Artificial Intelligence Specialization | Minor in Mathematics*          Windsor, ON

- Computer Science Teaching Assistant; Electrical Engineering Research Assistant; Tutored anything CS or EE related
- Won first place at both CSGames 2023 for Emulators and WinHacks 2021 for Hardware.

**St. Clair College**                                September 2017 - April 2020
*Electronics Engineering Technology, Associate Degree*                 Windsor, ON