Cole Fuerth

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EXPERIENCE

University of Windsor   Jan. 2022 – Present
Research Assistant   Windsor, ON

- Developed a cloud-based data collection and SOC-estimation tool for Battery Management Systems using **TensorFlow**, **AWS**, **RabbitMQ** and **MongoDB**. Programmed in **C++** and **Python**
- Assisted MASc students in developing data collection tools for the study of Battery Management System (BMS) performance and Batter Thermal Management Systems (BTMS) prediction.
- Made a dynamic interface between **I2C/UART** on **Arduino** and **Python** over USB using JSON packets, allowing for real-time data collection and analysis.

Smyth Innovations   November 2021 – July 2022
Embedded 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

- Programmed and assembled an electric dirt-bike.
- Assembled 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.

Home Server

- Host a **Docker**-ized home server using **Ubuntu Server**. Before Docker, I used **shell** scripts to manage my services.
- Server hosts services including a reverse proxy, a research database, RAID drive redundancy, a Plex media server, machine learning models, a minecraft server, cron-scheduled backup scripts, and a web interface for the server. I use it for most of my development. I made this resume on it using LaTeX!

Electric Long-boards

- Electronics enclosure designed and 3d printed, with custom wiring.
- Batteries are a **completely custom design**, built with 21700 Lithium cells.
- **Won first place** in the hardware category at WinHacks 2021, by passing telemetry over **UART** from the ESC to a **Raspberry Pi**.

EDUCATION

University of Windsor   Sept. 2020 – Aug. 2023
Honours Computer Science with Artificial Intelligence Specialization | Minor in Mathematics   Windsor, ON

- Computer Science **teaching assistant**
- Electrical Engineering **reasearch assistant** working with **Advanced Energy Storage Systems**.
- **89% Major Average**; received Dean's List for each completed class year.

St. Clair College   Sept. 2017 – May 2020
Electronics Engineering Technology, Associate Degree   Windsor, ON

- Skills gained involve DC and AC circuit analysis, analog signals processing, digital systems, C language and PLC programming, micro-controller programming and PCB design and assembly.
- **3.9 Cumulative GPA**; received the Student Leadership Award for graduating class year