Ross M. Anderson

Computer Engineering Co-Op at McMaster University
Dual Canadian and British Citizenship

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Highlights

- Excellent circuit design skills developed from McMaster Rocketry, spearheading **embedded systems** projects resulting in attending **two national competitions**.
- **Real-world** engineering experience gained from Ciena, developing, testing, and productizing multiple next-gen interconnect solutions and backplanes used in the datacenter industry, contributing to **4.79 billion dollars in revenue**.

Professional Experience

Ciena Corp. | Hardware Design Engineer Co-Op May 2023 – Aug. 2023

- Drove the design of **3 bleeding edge** optical interconnect solutions, reducing connector footprint by **60%** and **doubling** effective speeds, enabling **800G** and future **1.6T** datacenter connectivity resulting in faster consumer internet.
- Conducted signal integrity testing on backplanes and DAC cables, using **VNAs Oscilloscopes,** and **scanning electron microscopes** to assess performance and reliability, ensuring complete client satisfaction and product reliability.
- Led the transfer of **55+** interconnect solutions from overseas to domestic manufacturers, navigating **supply chain issues** to ensure timely resolutions.

Longo's Inc. | PPF Senior Clerk Aug. 2019 – Sept. 2022

- Delivered customer service in a fast-paced kitchen environment while also training new employees, demonstrating strong **communication** and **time management** skills, resulting in satisfied customers and happy managers.

Projects / Extracurriculars

McMaster Rocketry Club | Avionics Dev Sept. 2022 – Present

- Responsible for designing and overseeing the development of the homebrew **Void Lake avionics** architecture, using **Altium Designer** and **Fusion360**.
- Developed an STM32 power management board used in the Marauder rocket, overcoming crosstalk, thermal management, and mechanical constraints.
- Designed a 4-layer STM32-ESP32 **ground control station** using **KiCad** and **Fusion 360** featuring remote rocket control with LoRa, GPS tracking, and Bluetooth functionality for GPS-based recovery mode.

Custom Linux Distro - VioletDebian Aug. 2023 – Present

- Used **Bash**, **Xorg**, and **VirtualBox** to program an install script that seamlessly transforms a basic Linux terminal into a robust desktop environment.
- Tested thoroughly using **virtual machines** and **test suite scripts** for rapid feature validation and iterative design refinement.

5-Band Desktop Graphic Equalizer Mar. 2023 – Sept. 2023

- Created an op-amp based graphic equalizer using **Altium** and **Fusion360**, **saving over $135** compared to similar off the shelf solutions.

Education

McMaster University
Second Year Computer Engineering Co-Op
Sept. 2022 – Apr. 2026

Skills / Tools

Software

- **Python** / **C** / **C++ / Bash**
- **React**,and **Firebase** used to build a food bank logistics app for Deltahacks 9.
- **ReactJS** used to code an educational training app for volunteers at a non-profit healthcare organization.
- **Git** / **GitHub**
- **Confluence** and **Jira** used to document and track various projects at Ciena

Electrical

- **Altium Designer**
- **KiCad**
- **Cadence Allegro** used for high-speed signal and interconnect verification for various PCBs and backplanes at Ciena.

CAD / Mechanical

- **SolidWorks** and **Fusion360** used on various projects.
- Designed a flight-sim joystick using Fusion 360's **T-spline workflow**.
- Created a planetary gear mechanism, landing a **first-place victory** for a McMaster University competition.