Ross M. Anderson

Computer Engineering co-op at McMaster University

Email: anderr26@mcmaster.ca
LinkedIn: linkedin.com/in/ross34anderson
Website: violettides.github.io
GitHub: github.com/VioletTides
Mobile: 289-427-5576

Highlights

- Excellent circuit design skills developed from McMaster Rocketry, spearheading **embedded systems** projects like the in-house **Void Lake avionics** platform and ESP32-based data-logger resulting in attending **two national competitions**.
- Real-world engineering experience gained from Ciena, developing, testing, and productizing multiple next-gen **fiber optic** and **near-board IO** solutions used in the **datacenter industry**, contributing to **4.79 billion dollars in revenue**.

Professional Experience

Ciena Corp. | Hardware Design Engineer — May 2023 – Aug. 2023

- Drove the design of **3 bleeding edge** optical interconnect solutions, reducing connector size by **60%** and **doubling effective speeds**, further enabling **800G datacenter connectivity** and faster consumer internet.
- Conducted application verification testing on interconnect solutions, using **VNAs Oscilloscopes, and scanning electron microscopes** to assess performance and reliability, ensuring complete **client satisfaction** and product **reliability**.
- Led the transfer of **70+** interconnect solutions from overseas to domestic manufacturers, navigating **supply chain issues** to ensure **timely resolutions**.

Longo's Inc. | Senior PPF 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 – May. 2023

- Responsible for designing and coding our homebrew **Void Lake architecture**, using **Altium Designer, Rust, and Fusion360**.
- Developed an **STM32 power management** and distribution board used in the **Marauder II rocket**, overcoming challenges like reducing **crosstalk, thermal management, and dimensional constraints**.
- Designed an **ESP32 data-logging PCB** using KiCad for first-year students to learn about the **software and EDA aspects** of the club.

5-Band Desktop Graphic Equalizer — Mar 2023 – Aug. 2023

- Designed an op-amp based graphic equalizer using Altium and Fusion360, **saving over $135** compared to similar off the shelf solutions.
- Uses both digital analog circuitry with key considerations being taken for a low-noise power supply and EMF interference, resulting in a product that **out-preforms other solutions available on the market**.

Arduino-Controlled Laser CNC — Jan. 2022 – Jun. 2022

- Built a laser CNC machine **from scratch** capable of engraving wood for **under $120** using Autodesk Fusion360 and filament-based 3D printing to rapidly prototype potential designs.

Skills

Electrical

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

Software

- **C++** / **Arduino** / **Python**
- **React**, **Bootstrap**, 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**

CAD

- **SolidWorks** and **Fusion360** used on various projects involving **FEA** and **GD&T**.
- Designed a flight-sim joystick using Fusion 360's **T-spline workflow**.
- Created a planetary gear mechanism that converted linear motion to rotary in Inventor, landing a **first-place victory** in creativity for a McMaster University competition.
- Designed a working mechanical hand in Blender, seen by **2000+** people and downloaded **50+** times.

Education

McMaster University
Sept. 2022 – Apr. 2026