

Relevant Experience

Technical Design, *McMaster University*

2019 - 2022

- **Ultrasonic Range Finder:** Conceptualized an ultrasonic range finder, demonstrated functionality with SPICE simulation and circuit design software Multisim. Implemented top-down design and system integration of analog and digital electronic components. Performed extensive debugging strategies with oscilloscopes, waveform generators, multimeters, and similar lab equipment.
- **Sequential Logic Project:** Designed digital circuit with base-level electronics including IC logic gates, JK flip-flops, and 7SD to cycle through 9-digit student number.
- **Optimization of Titanium Implant for Partial Hip Arthroplasty:** Optimized parameters of prosthetic hip implant by automating FlexPDE (finite-element solver) with Python script to consider piezoelectric properties and design specifications.
- **Wearable Device:** Designed and developed a wearable device using a Raspberry Pi coded in python, and 3D modelled a housing unit for the device with Autodesk Inventor. Showcased design at a design expo.

Research Assistant, *Hamilton Health Sciences and McMaster University*

Summer 2020 and 2021

- Performed program validation for fibrin clot analysis utilizing scanning electron microscope images. **Developed end-user documentation** to be used in undergraduate course development at McMaster University, and instructional material at Hamilton Health Sciences.
- Researched and analyzed scientific information on neonatal circulation and portal vein thrombosis. Designed models with **3D computer graphics software**, Blender. Presented information on a webpage, utilized JavaScript, HTML, and CSS, hosted on GitHub.
- Supervised by Dr. Anthony Chan, Professor of Paediatrics and Director of the Paediatric Thrombosis Clinic and Hemophilia Clinic at McMaster Children's Hospital. Received \$6000 funding from Biotalent Student Work Placement Program.

Education

Engineering Physics & Biomedical Engineering (Co-op), *McMaster University*

2019 - 2023

- cGPA: 3.93. Dean's Honour List (2019-2021), President's Entrance Scholarship (2019).
- Relevant Courses: Circuits with Non-Linear and Active Components, Embedding and Programming a Microcontroller, Computational Multiphysics, Computational Mechanics.

Skills

Software

- Python, MATLAB, CAS Maple, Embedded C, NI Multisim, FlexPDE, Autodesk Inventor, Blender, Microsoft Office

Practical

- Oscilloscope, Function Generator, Circuit Analysis, Analog and Digital Electronics, Multimeter

Volunteer & Extracurriculars

Leadership & Development Coordinator, *McMaster Engineering Society*

2021 – 2022

- Appointed to oversee the development of leadership and professional skills for students within the Faculty of Engineering at McMaster. Managed committee and delegated responsibilities to execute events such as LinkedIn photoshoots, and engineering competitions.

Equity, Diversity & Inclusivity (EDI) Co- Chair, *McMaster Women in Engineering Society*

2021 – 2022

- Co-Directed and hosted an online conference, assembled keynote speaker, student graduate panel, and workshop hosted by the chair of the Ontario Network of Women in Engineering. Devised and executed events to educate undergraduate students on EDI.