

## EDUCATION

**McMaster University** **Sep. 2021 — Apr. 2026**  
*Bachelor of Engineering (B.Eng) | Computer Engineering* Hamilton, ON  
• **Relevant Courses:** Data Structures and Algorithms, Logic Design, Digital Systems Design, Embedded Systems, Signals & Systems.

## SKILLS

**Languages** Python, C, C++, HDL, Verilog, MATLAB  
**Tools** Altera Quartus II, Keil uVision, Pspice, Git, GitHub, Autodesk Inventor, Figma, Visual Studio, Eclipse  
**Communication** English, French, Korean

## TECHNICAL EXPERIENCE

**DeltaHacks**  **Jun. 2022 — Present**  
*Design VP* Hamilton, ON

- Led and guided a **team of 6 designers** to deliver visually compelling artwork and graphics.
- Designed **over 30 unique artworks** including assets, marketing posts, and merchandise.
- Worked alongside 5 other teams to organize various promotional material and events that reached **500+ participants**.
- Oversaw and collaborated with the technical team in conceptualizing a visually pleasing UI and accessible UX interface.

**Smart Intersection Design** **Jan. 2022 — Apr. 2023**  
*Administrator & Developer* Hamilton, ON

- Redesigned a pre-existing intersection to function more effectively with self-driving vehicles.
- Increased throughput and modified the intersection to mitigate pedestrian incidents, resulting in a **15% improvement in safety**.
- Generated performance and traffic behavior metrics through a digital simulation in **Python**.
- Conducted stakeholder analysis to identify constraints, prioritize design goals and ensure client satisfaction.

## PROJECT

**Sumobots** **Dec. 2023 — Jan. 2024**  
*Developer & Builder | C++, Arduino*

- Designed and built an autonomous robot from scratch using Arduino Nano to **compete against 20+ teams**.
- Programmed strategies in **C++** such as a search and attack protocol using IR and Ultrasonic sensors.
- Maximized winning opportunities **by 40%** through building a compact and stable body design.

**Hardware Implementation of an Image Decompressor** **Nov. 2022 — Dec. 2023**  
*Developer | Verilog, Altera DE2 board*

- Implemented an image decompressor using the Altera DE2 board by programming a system of FSMs in **Verilog**.
- **Increased utilization efficiency by 97%** for common case interpolation and colour space conversion with multipliers.
- Interfaced the VGA via UART into embedded SRAMs for storing and accessing image data with high efficacy.

**LiDAR Scanner for Spatial Mapping**  **Jan. 2023 — Apr. 2023**  
*Developer | C, Microcontroller, Altera Quartus II*

- Designed and built an embedded spatial measurement system in **C** using a time-of-flight sensor to acquire data for **360-degree measurement** within a single vertical geometric plane.
- Programmed UART and I2C communication for output and for sending graphical data through the system.
- Integrated hardware by developing each peripheral's behavior to the microcontroller at a low level.
- Utilized debugging tools to identify and resolve issues using communication protocols, unit testing, and electrical testing equipment.

**Electromagnetic Rod**  **Mar. 2022 — Apr. 2022**  
*Project Manager | Autodesk Inventor*

- Spear headed a **team of 5** to assist clients with Ehlers-Danlos syndrome by designing an ergonomic electromagnetic rod that enables them to maneuver board game pieces.
- Strategically managed material shortages by identifying cost-effective solutions **reducing costs by 30%**.
- Redesigned the original model through primitive sketches and iterative prototyping.

## AWARDS & INTERESTS

**Ontario Volunteer Service Award** | Government of Ontario Jan 2021  
• This award recognizes volunteers for providing committed and dedicated service to an organization.

**Interests:** Robotics (Robomasters, Sumobots), Game Design, Art Portfolio 