

## EDUCATION

### Bachelors of Computer Engineering McMaster University

09/2017 – 04/2021

#### Courses

- Microprocessors
- Circuits and Systems: Oscilloscope, Function generator, PSpice, etc.
- Software Development: Simulink
- Signals and Systems
- Object Oriented Programming in C/Java
- Digital Logic Design: Verilog, UART, VGA, PS/2, Modelsim, Quartus

## EXPERIENCE

### Co-Founder & Operations Director McMaster Hyperloop Team

01/2019 – Present

#### Achievements/Tasks

- Overseeing all engineering operations to lead a team of 60 students to develop a prototype pod
- Guiding each sub-team to write an effective report for the technology implemented in the pod
- Creating proof of concept electrical devices for verification
- Responsible for establishing communication between MCUs using I2C

### Rocket Structure Designer McMaster Rocketry Team

06/2018 – 09/2019

#### Achievements/Tasks

- Documented design-analysis of launch-rails for Sounding Rocket
- Led selection of rocket's nosecone via hand-computation/simulation
- Modeled rocket air-frame & nosecone on AutoDesk Inventor

### Cooling System Designer McMaster Formula Electric

11/2017 – 04/2018

#### Achievements/Tasks

- Modelled case for electromechanical sensor with SolidWorks
- Installed Formula Electric Car parts (e.g. brakes) using Workshop Machinery
- Gained crucial experience deigning and soldering sensitive components for the team

## SKILLS

C/ C++

Java

Python

OpenCV

Linux

Matlab

Simulink

OOP

HTML

Assembly

Verilog

Raspberry Pi

Arduino

Esduino uC

UART

I2C

USB

Soldering

Modelsim

Quartus

AutoDesk Inventor

AutoDesk Eagle

Solidworks

CAN Communication

KiCad

Photoshop

Microsoft Office

## PROJECTS

### L A S E R for Hack The North (Sept 2019)

- An award winning artistic robot built for photographers to automate Light Painting
- Designed an edge detection program which imports any image and finds a general outline as well as important features.
- Developed an interface between motorised laser and DSLR Nikon D3400 camera for smart setting management.

### Accelerometer Data Acquisition (May 2019)

- Successful conversion of Analog to Digital signals from Accelerometer to Esduino Xtream Microprocessor
- Established USB serial communication between the microprocessor and Matlab
- Proficiently used Assembly, C and Matlab together to build this system

### Delta Draw for DeltaHacks V (Jan 2019)

- A mechanized artist robot that draws any imported image onto a whiteboard using a marking in under 40 mins
- Used FLASK for testing and developing a local server
- Designed a local tunneling system through NGROK for file transfer
- Tested the viability of a piece of code used to extract etch-a-sketch coordinates through Image Processing

## ACHIEVEMENTS

### Winner of Hack The North (Sept 2019)

Awarded at Waterloo University's annual hackathon against 400+ teams

### 3rd Place Winner of DeltaHacks V (Jan 2019)

Awarded at McMaster University's annual hackathon against 160+ teams

### Innovation Award: DeltaHacks V (Jan 2019)

Won one of two most innovative product