

# Mithilan Muralitharan

Mechatronics Engineering & Management Graduate

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## Education

*September 2015 – April 2020*

**Bachelor of Engineering – Mechatronics Engineering and Management**

**McMaster University, Hamilton ON**

- Graduated with Distinction standing (cumulative GPA of 10.1 of 12)
- Strong communication, organization and time management skills developed through course work
- Excellent teamwork and leadership abilities developed while working on multiple group projects

## Experience

*Sept 2020 – Present*

**Full Stack Developer | FirstScreen, Toronto ON**

- Working as an independent contractor in a team of five to build out a web application that would be accessed by clients
- Developed new features on frontend using React
- Implemented backend features using Node.js that would access MySQL through complex queries
- Designed and maintained complex database in MariaDB

*May 2020 – Present*

**Mechatronics Engineer | Longan Vision Corp., Hamilton ON**

- Working as an independent contractor in a team of six to create a modular device that would allow fire fighter helmets to stream visuals of emergency situations to a web application accessed by main centre
- Full-stack development to create web application
- Working with Apache, PHP, Flask, AWS (Elastic Beanstalk, RDS and S3)
- Hardware development involving CAD design in Autodesk Inventor

*January 2020 – April 2020*

**Teaching Assistant | McMaster University, Hamilton ON**

- Working with tutorial instructor to guide students through the use of Python to complete laboratory objectives in the Engineering Computation course
- Grading students' work and providing quality feedback in a timely and organized manner

## Key Projects

*August 2020*

**Live Streaming Car**

- Ability to be controlled by Xbox controller while live streaming to local host site using Apache and WebRTC

*May 2020*

**Resume Website**

- Using HTML, CSS and JavaScript to design and deploy a functional website for potential employers to view

*June 2017*

**Password Manager**

- Created a C program that would store a user's password for various websites and can also generate a password for a website if the user desires

## Skills

**Technologies:**

- C, C++
- Python
- HTML/CSS/JavaScript
- NodeJS, React
- MySQL
- PHP
- AWS (RDS, S3, Beanstalk)

**Programs:**

- Word, PowerPoint, Excel
- Adobe Photoshop
- MATLAB, Simulink
- CAD: Inventor, NX

## Hobbies

- Making animated shorts/clips
- Creating graphic designs

# Other Projects

*June 2019*

## **Obstacle Avoiding Robot**

- Built a RC car that used Arduino to avoid obstacles in its view as it drove around

*March 2019*

## **Wind Turbine Assembly**

- Created a multi-part CAD assembly using Siemens NX while also providing kinematic, CAM and CAE simulation of the assembly.

*January 2019*

## **Guess the Movie Game**

- Created a Python program that would use a movie database API and ask the user to guess a daily trending movie based on description of the movie

*September 2018*

## **ARM CORTEX-M Applications**

- Built and programmed various applications including a PWM Fan Controller

*September 2018*

## **Marketing Management Project**

- Worked with a veterinary clinic to determine where it can improve its business by analyzing its business management and financial records. Concluded the project by providing the clinic with a full report outlining recommendations and why it was deemed necessary.

*March 2017*

## **Tracking ADC Converter**

- Designed a 4-bit tracking ADC, simulated circuit using NI Multisim and tested circuit using NI myDAQ

*September 2016*

## **Dynamics Systems Design Problem**

- Designed a system which would lift a client specified mass at required speed. A formal engineering report was created to conclude project.

*September 2015*

## **CD-ROM Drive Read Head**

- Worked in a team of three. Created 2D drawings, created CAD parts in Inventor, simulated in MapleSim, 3D printed and assembled.