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

- Received Deans' Honour List for multiple years
- Strong communication, organization and time management skills developed through course work
- Excellent teamwork and leadership abilities developed while working on multiple group projects

Experience

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 matter

September 2018 – December 2018

Teaching Assistant | McMaster University, Hamilton ON

- Worked with tutorial instructor to guide students through the engineering process in creating their final products for clients in Engineering Profession and Practice course
- Graded students' work according to engineering standards in a timely and organized matter
- Evaluated as an excellent (effective, prepared and professional) teaching assistant by instructional assistant intern

January 2014 – August 2016

Aquatics Instructor | City of Brampton, Brampton ON

- Taught participants how to swim as well as created lesson plans that would be carried out in an organized and timely manner
- Demonstrated leadership skills through directing and developing assistant instructors
- Corrected emerging habits of participants to improve technique

Key Projects

September 2019

Next-Generation Fire Helmet (Engineering Capstone)

- Working with Longan Vision in a team to create a device that would stream visuals of emergency situation to a web application
- Primarily focused on software development, specifically front-end and back-end development of web application
- Worked with Apache, PHP, AWS (Elastic Beanstalk, RS and S3)

June 2019

Obstacle Avoiding Robot

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

Skills

Programming Languages:

- C, C++
- SQL
- HTML/CSS
- Python
- JavaScript
- PLC

Programs:

- NI Multisim, Labview
- Word, PowerPoint, Excel
- MATLAB, Simulink
- CAD: Inventor, NX

Testing Equipment:

- Oscilloscopes
- Function Generators

Other Projects

January 2019
Automatic Fish Feeder

- Used Arduino to implement a fish feeding device where user can select number of fish from a range

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.

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

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.