

# Abhi Patel

abh1.me  
abhi.patel@uoit.net | 647-741-8735

## EDUCATION

### UOIT

#### BENG IN MECHATRONICS ENGINEERING

Expected on Apr 2021 | Oshawa, ON  
President's List (All Semesters)  
Major GPA: 4.18 / 4.3

## LINKS

Blog:// [abhipateldotblog.wordpress.com](http://abhipateldotblog.wordpress.com)  
Github:// [B33Boy](https://github.com/B33Boy)  
LinkedIn:// [abhi-patel-0](https://www.linkedin.com/in/abhi-patel-0)

## COURSEWORK

### UNDERGRADUATE

Calculus I and II  
Linear Algebra  
Engineering Design  
Statics and Dynamics  
Electrical Engineering Fundamentals  
Object-Oriented Programming  
Differential Equations  
Concurrent Engineering and Design  
Circuit Analysis  
Introductory Electronics  
Numerical Methods  
Solid Mechanics  
Statistics and Probability

## OTHER COURSEWORK

### COURSERA

Machine Learning

## SKILLS

### PROGRAMMING

Languages  
Python • Java • C++ • Matlab • HTML • CSS • JavaScript  
Operating Systems  
Windows, Linux  
Libraries/Frameworks  
ROS • OpenCV • Numpy • Matplotlib • Pandas • Keras • Tensorflow

### CAD

SolidWorks • DraftSight  
Excellent understanding of engineering project management, concurrent and traditional design principles, and proficiency with MS Project

## EXPERIENCE

### CAROBOT LEARNING AND RESEARCH ORGANIZATION

#### HARDWARE DEVELOPER

May 2018 - August 2018 | Markham, ON

- Applied the engineering design process to develop an Arduino powered robot car for students to assemble during class
- Strengthened communication skills through teaching the CR101, CR102, and CR201 Robotics and Programming classes targeted at youth ages 9-12
- Created the logistics and lesson plans for the Summer Camp Robotics classes
- Supervised volunteers to increase effectiveness in teaching

## PROJECTS

### DEEP LEARNING SELF-DRIVING RC CAR July 2018 - August 2018

- Modified an RC car by attaching a raspberry pi to stream camera and ultrasonic sensor data to a computer over a TCP connection
- Solved a multi-label classification problem via the implementation of a neural network in Keras to output steering direction from the image inputs
- Interfaced an Arduino with the RC controller to send signals which cause car to move

## ACHIEVEMENTS

2017 UNIFOR Local Scholarship  
2017 Calculus and Vectors 12U Award  
2017 Computer Engineering 12O Award  
2016 Physics@MAC McMaster Physics Competition Honourable Mentions

## EXTRACURRICULARS

### UOIT MARS ROVER CLUB October 2017 - Present

- Tested systems consisting of Stereo Cameras, and a LIDAR unit on the Jetson TK1 embedded development board
- Executed SLAM navigation algorithms on ROS to map local terrain
- Interfaced Arduino with high power motors and tested motor control algorithms
- With guidance from the Senior Programming Executive, directed members to complete various tasks concurrently
- Designed ROS coding challenges for new club members

### UTRAHACKS - HACKATHON November 2018

- Designed a robot that uses OpenCV to detect drowsiness and shoot water to wake up the target.

### UOTAHACKS - HACKATHON January 2018

- Collaborated with other engineering students to successfully create an augmented reality game with OpenCV

### THACKS2 - HACKATHON October 2017

- Worked in a team to create Sociafy, a web app that organizes music playlists