

# Bhavishey Thapar

## CONTACT

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## EDUCATION

### UNIVERSITY OF TORONTO

AEROSPACE ENGINEERING  
(ROBOTICS)

2023 | MEng.

### UNIVERSITY OF WATERLOO

MECHATRONICS ENGINEERING  
2019 | BAsC.

## SKILLS

- C/C++
- Python
- ROS
- Matlab/Simulink
- SQL
- Fusion 360
- Linux
- Microcontrollers
- Autodesk Eagle
- Raspberry Pi

## COURSEWORK

### GRADUATE

Neural Networks: 94%

Development Of UAVs: 86%

Advanced Data Engineering: 92%

State Estimation: 70%

Computer Vision: 87%

Mobile Robotics

### UNDERGRADUATE

Autonomous Vehicles: 91%

Multivariable Controls: 80%

Digital Controls: 81%

Introduction to Controls: 74%

Power Electronics: 82%

Image Processing: 90%

MEMS: 89%

## AWARDS

General Motors Design Seed Fund  
Magna New Mobility Award

## INTERESTS

Tennis

Reading

## RELEVANT EXPERIENCE

### GEOTAB | AUTOMOTIVE SUPPORT ENGINEER

July 2019 - June 2021 | Oakville, ON

- Leveraged Big Data and API's to create Python Notebooks enabling support engineers and customers to find quick resolutions related to product issues.
- Responsible for creating technical documentation as Subject Matter Expert (SME) for company wide automotive and gateway related queries.

### PARAGON SYSTEMS | MECHATRONICS ENGINEERING INTERN

Sept 2017 - Dec 2017 | Concord, ON

- Part of an award-winning team of interns for successfully building and delivering automated end of line testing machines for Brose in Michigan.
- Fabricated and installed structural, pneumatic and electric systems on power seat assembly testers for Daimler AG, Ford and Volvo.

### HONDA MANUFACTURING | MECHATRONICS ENGINEERING INTERN

Jan 2017 - April 2017 | Alliston, ON

- Awarded a Kaizen for creating a hand tool to help assembly workers solve problems related to door manufacturing.
- Tested and inspected manufacturing processes to improve product quality.

### BOLTON RAILINGS INC. | MECHATRONICS ENGINEERING INTERN

Jan 2017 - April 2017 | Alliston, ON

- Created shop drawings of stair and railing parts for the carpenters using Compass, a CNC compatible software geared towards designing stairs.

### WATERLOO REGIONAL POLICE SERVICES. | IT STUDENT

Sep 2014 - December 2014 | Waterloo, ON

- Provided hardware and software support to the company employees.

### A&C TOOL INC. | MECHANICAL ENGINEERING INTERN

Jan 2014 - April 2014 | Bowmanville, ON

- Worked as the primary drafting engineer to model and draft steel fabrication projects such as Lifting Beam, Tilt Chute using Autodesk Inventor.

## ADDITIONAL EXPERIENCE

### UNIVERSITY OF TORONTO AEROSPACE TEAM | AVIONICS TEAM

Sept 2021 - Present | Toronto, ON

- Working towards developing a system for a fixed wing UAV to detect landing zones using object detection algorithms running on a stereo camera with the goal of successfully landing the UAV on the landing zone.

### ROBOT ARM CONTROLLER

January 2019 - April 2019 | Waterloo, ON

- Designed a feedback controller in MATLAB for a non-linear two link robot arm MIMO system using a Kalman filter as the state estimator.
- Implemented the controller using the LQG optimal control technique.

### AUTONOMOUS UNDERWATER VEHICLE

January 2018 - March 2018 | Waterloo, ON

- Designed and built an underwater ROV capable of guiding through underwater obstacles and were placed 2nd in the competition.
- Used a Raspberry Pi single board computer with an ARM processor to interface with sensors and electronic speed controllers for the BLDC motors.