

Ishaan Mehta

Toronto, Ontario

☎ +1 (647) 803 3022 • ✉ mehtaishaan4@gmail.com • in ishaanmht • 🌐 ishaanmht

Education

Toronto Metropolitan University

Doctor of Philosophy, GPA – 4.17/4.3
Planning and Perception in Robotics

Toronto, CA
May 2022 – Active

University of Toronto Institute for Aerospace Studies

Masters of Engineering (MEng), GPA – 3.84/4
Emphasis on Autonomous Robotics

Toronto, CA
Sept. 2018 – June 2020

Thapar Institute of Engineering and Technology

Bachelor's of Engineering in Mechatronics, GPA – 8.4/10

Patiala, IN
Aug 2013 – May 2017

Publications

1. Ishaan Junseo Kim, Sharareh Taghipour, and Sajad Saeedi "M3RS: Multi-agent, Multi-objective, and Multi-mode Routing and Scheduling", under review at IEEE Robotics and Automation Letters.
2. Ishaan Mehta, Hao-Ya Hsueh, Sharareh Taghipour, Wenbin Li and Sajad Saeedi "UV Disinfection Robots: A Review", accepted in Journal of Robotics and Autonomous Systems.
3. Ishaan Mehta, Hao-Ya Hsueh, Nikolaos Kourtzanidis, Mateusz Brylka, Sajad Saeedi "Far-UVC Disinfection with Robotic Mobile Manipulator", appeared in International Symposium on Medical Robotics 2022.
4. Ishaan Mehta, Sharareh Taghipour and Sajad Saeedi "Pareto Frontier Approximation Network (PA-Net) to Solve Bi-objective TSP", appeared in IEEE 18th International Conference on Automation Science and Engineering 2022.
5. Ishaan Mehta, Mingliang Tang, and Timothy D. Barfoot "Gradient Based Exposure Compensation Applied to a Self Driving Car", Conference on Computer and Robot Vision 2020.
6. Ishaan Mehta, Keshav Bimbraw, R.G. Chittawadigi and S.K. Saha "A Teach Pendant to control Virtual Robots in RoboAnalyzer", in Proc. Int. Conf. on RAHA 2016.
7. Keshav Bimbraw, Ishaan Mehta, Vinoth Venkatesan, Udhith Joshi, G.S. Sabherwal and S.K. Saha "Performance Improvements of a 6-DOF motion Platform", in Proc. Int. Conf. on RAHA 2016.

Technical Skills

Languages: C++, Python, Matlab, Shell

Software and Tools: Tensorflow, Pytorch, Docker, Simulink, CMAKE, CPLEX, Gurobi, ROS, OpenCV, LATEX

Operating Systems: Windows and Linux (Ubuntu)

Version Control: Git

Hardware: Raspberry Pi, Arduino and Miscellaneous Sensors and Actuators

Experience

RCVL Lab, Toronto Metropolitan University

Research Assistant

Toronto, CA
June 2020 – Present

- Worked on development of an affordable UV based disinfection mobile manipulator. [\[link\]](#)
- Bi-objective task allocation through reinforcement learning. [\[link\]](#)
- Deep learning based detection of microplastics.
- Wifi based perception.

TRAIL Lab, University of Toronto

Master's Project Researcher

Toronto, CA
Jan 2019 – Aug 2019

- Developed a pipeline for a gimbaled camera to track moving targets for autonomous quadrotor landing.

- Worked on the development of various modules of a robotics education software RoboAnalyzer.
- Worked on addressing the jerky behaviour of a parallel robot used as a driving simulator by the Indian Army.

Awards and Honors

- Queen Elizabeth II Graduate Scholarship at Toronto Metropolitan University (2023-2024).
- Merit Scholarship at Thapar University (2015 - 2016).
- Fourth prize winner of International Autodesk Space Challenge (2016).
- Bruce M. Clark Jr. Memorial Scholarship for NASA AMES Space Settlement Contest (2011).

Volunteer Experience

- **Volunteer at Art of Living** I actively volunteer with the Art of Living Foundation to promote breathwork and meditation practices that relieve stress and lead to inner peace. I regularly participate in organizing community talks and meditation workshop with the foundation. During COVID-19 pandemic I started conducting daily free virtual sessions of breath work and meditation as a means to tackle exhaustion and stress of the pandemic.
- **Conference Services:** Jointly hosted a presentation Session for Conference on Automation, Science and Engineering 2022.
- **Reviewer for Conferences and Journal:** Served as a reviewer for RAL, RAS, CASE 2022, IROS 2023, and ICRA 2024.

Extracurricular

Lab2Market

Sep – Dec 2021

Participated in Lab2Market program at Toronto Metropolitan University. Lab2Market is the first national-level program in Canada to fund and equip graduate students and their faculty supervisors with the entrepreneurial skills needed to assess the commercial viability of their university-based research innovations. During the course of this program, I learned techniques of engagement with potential customers. Furthermore, I conducted interviews with several industry experts in order to understand market needs.

Volt

Sep – Dec 2020

Participated in VOLT program at Toronto Metropolitan University. Volt supports students and their faculty supervisors in taking their research from ideation to commercialization. This 10 week program that equips students with the needed entrepreneurial skills to help assess the commercial viability of their research.

Team-Member AuToronto

Aug – Dec 2019

AuToronto is University of Toronto's Self-Driving Car Team. I was a part of Control's team and worked on development of low level controller for the car.

Team Nebula

Sept 2015 – Feb 2016

Team Nebula developed a go-kart for Elite Karting 2016. Team Lead of Engine department.

AIESEC

May – June 2014

Selected for exchange program of AIESEC under which I worked on social projects related to education of children in Shanghai, China.

Services

- **Teaching Assistant:** Served as a teaching assistant for Mechatronics Systems Design in fall 2022 and Vibrations in winter 2023.
- **Coursework Design:** Designed experiments for Mechatronics Systems Design in summer 2022.