

# AMIN YAZDANSHENAS

Toronto, ON | ☎ (437) 982-9090 | ✉ [yazdanshenas.amin@gmail.com](mailto:yazdanshenas.amin@gmail.com) | [in LinkedIn](#) | Open Work Permit

## AREAS OF EXPERTISE

- Machine Learning (ML)
- Reinforcement Learning (RL)
- Learning-Based Control
- Nonlinear & Robust Control Design
- Embedded Systems & Hardware Implementation
- Robotic Simulation (ROS, PyBullet, Gazebo)
- Optimization & Motion Planning
- Mathematical Modeling & Stability Analysis
- Applied Research & Project Development

## RESEARCH AND TEACHING EXPERIENCE

### Autonomous Vehicles Laboratory (AVL)

Graduate Research Assistant

Toronto, Canada

May 2022 - Present

- Working on Developing a Robust and Agile Control System for Quadrotors using the state-of-art Methods
- Robust and Agile Quadrotor Flight via Adaptive Unwinding-Free Quaternion Sliding Mode Control (Published at [IEEE Transactions on Robotics \(T-RO\)](#))
- Quaternion-Based Sliding Mode Control for Six Degrees of Freedom Flight Control of Quadrotors (Published at [IEEE/RSJ International Conference on Intelligent Robots and Systems \(IROS\)](#))

### Toronto Metropolitan University

Graduate Teaching Assistant

Toronto, Canada

May 2022 - Present

- Facilitating lab and tutorial sessions for undergraduate courses offered by the Faculty of Applied Science
- Grading assignments, exams, reports and projects, providing detailed feedback to students
- Collaborating with the faculty in revamping course materials for improved learning

## EDUCATION

### Toronto Metropolitan University

Ph.D. in Aerospace Engineering

Toronto, ON

May 2022 - Present

- **Advisor:** Prof. Reza Faieghi
- **Awards:** TA/GA Equity and Inclusion Award, 2024

### Amirkabir University of Technology

M.A.Sc. in Aerospace Engineering

Tehran, Iran

2022

- **Awards:** 1<sup>st</sup> Place in MathWorks Minidrone Competition 2019, Silverstone Circuit, United Kingdom

### Amirkabir University of Technology

B.Sc. in Aerospace Engineering

Tehran, Iran

2022

- **Awards:** i) 1<sup>st</sup> Place in Virtual Drone Challenge. International Micro Air Vehicle Conference and Competition (IMAV), 2017, Toulouse, France
- ii) 3<sup>rd</sup> Place in Drone-Emergency Service, FIRA RoboWorld Cup 2018, Taichung, Taiwan

## PROGRAMMING AND SKILLS

**Programming Languages:** C/C++, Python, Rust

**Robotics & Simulation:** ROS, Gazebo, PyBullet, FreeRTOS, Crazyflie-firmware, NuttX, PX4, Crazyswarm2, Crazysim

**Machine Learning & Vision:** OpenCV, TensorFlow, Keras, OpenAI Baselines

**Web Development:** JavaScript, HTML5, CSS3

**Document Preparation:**  $\text{\LaTeX}$ , MS Word, PowerPoint

**Simulation & Analysis:** MATLAB/Simulink, XFOIL, ANSYS Fluent, AVL

**Virtual Environments:** Microsoft AirSim, Unreal Engine

**CAD & Design:** SolidWorks, CATIA

**Operating Systems & Tools:** Ubuntu Linux, Windows, Docker, Git

**Productivity & Media:** MS Office, Adobe Photoshop, Illustrator, After Effects, Blender