

Fata Asgharzadniazi

Toronto, ON | LinkedIn

Education

University of Toronto September 2023 – April 2027

Honours Bachelor of Science in Computer Science

- **Programs:** Computer Science Specialist, Information Security Specialist, Mathematical Sciences Minor
- **Campus:** Mississauga
- **CGPA:** 3.88/4.0
- **Relevant Coursework:** Reinforcement Learning, Information Security, Databases, Operating Systems, Intro to Robotics, Intro to Machine Learning
- **Honours and Awards:**
 - University of Toronto Excellence Award: UTEA Winners
 - Dean's List Scholar (2x)

Experience

Medical Computer Vision and Robotics Lab – University of Toronto September 2025 – December 2025
Researcher – Research Course

- Investigated the impact of disparity information on pose estimation accuracy in surgical robotics applications.
- Analyzed Sim2Real domain gaps in pose estimation networks, evaluated domain randomization techniques for mitigation, and identified inherent limitations of current approaches.
- Identified and implemented effective representations to bridge the Sim2Real gap, improving model robustness and generalization.
- **Tools:** PyTorch, Unity, C#

Medical Computer Vision and Robotics Lab – University of Toronto May 2025 – August 2025
Research Fellow

- Developed novel deep learning approaches for 6-DOF pose estimation in surgical robotics.
- Engineered a comprehensive multi-modal simulation environment in Unity from scratch, implementing full domain randomization to improve model generalization.
- **Tools:** PyTorch, Unity, C#

Medical Computer Vision and Robotics Lab – University of Toronto October 2024 – May 2025
Undergraduate Research Volunteer

- Designed and implemented a ROS-based automation interface for a surgical instrument controller for imitation learning in surgical robotics research.
- **Tools:** Python, NumPy, ROS

Projects

WallTrace | GitHub July 2025 – August 2025

- Developed an indoor navigation system using text-based visual cues and machine learning for CSC311: Introduction to Machine Learning.
- Achieved 100% project grade through implementation of computer vision and natural language processing techniques.
- **Tools:** PyTorch, Swift, SwiftUI

LocateLot | GitHub May 2024 – August 2024

- Built a comprehensive parking lot locator application with advanced filtering and sorting capabilities using Clean Architecture principles.
- Implemented an intelligent review submission system and address search with predictive auto-completion

leveraging Google Places API.

- Collaborated in a team of 4 for CSC207H1: Software Design, following strict technology constraints per course requirements.
- **Tools:** Java Swing, Google Places API

Technical Skills

Languages: Python (PyTorch, pandas, scikit-learn, NumPy), C++ (Unreal Engine), C# (Unity, ASP.NET), Java (Swing), TypeScript, Svelte, Assembly, Arduino

Frameworks & Tools: ROS, PyTorch, Unity, Git, Google Places API

Design Tools: SOLIDWORKS, Adobe Photoshop, Adobe Premiere Pro

Volunteering & Student Clubs

UTIRAN – Technology & Design Executive

July 2024 – May 2025

- Created engaging social media content and maintained web presence for university's Iranian student association.
- **Tools:** WordPress, HTML, CSS, Adobe Photoshop