Mobina Jamali

mobiina.jamali@gmail.com | 587-438-6550 | LinkedIn | GitHub | Portfolio Website

SKILLS: **PyTorch, TensorFlow, Scikit-learn, ROS, Gazebo, OpenCV, ISAAC Sim, Pandas, SQL, OOP, TDD, Linux, GIT, Supervised/ Reinforcement Learning, MongoDB, Docker, AWS**

LANGUAGES/ ENVS: **Python, C++, MATLAB**

SUMMARY

As a roboticist and AI practitioner, I have over three years of expertise in **machine learning, computer vision,** and **robotics.** I'm interested in ways we can allow robots to work alongside humans to perform complex, multi-step tasks, using a combination of learning and planning. Please check out my website for a comprehensive list of projects I've been working on.

EDUCATION

UC San Diego *2023 - 2024*
MicroMasters Program, Data Science

University of Calgary *2019 - 2023*
Bachelor of Science, Physics

EXPERIENCE

Robotarium ML Team *September 2023 – December 2023*
Software Co-op Student

- Presented a framework to self-supervise robot grasping task.
- Trained a Convolutional Neural Network (CNN) for the task of predicting grasp locations without severe overfitting.
- Established a highly parallelized experimental setup to thoroughly investigate the robustness of grasp evaluation, benefiting humanoid robot manipulation.

Unmanned Vehicles Robotarium Lab *September 2022 – April 2023*
Control Researcher (Undergraduate Thesis Project)
Thesis: "Advancing the Control for a Highly Maneuverable Autonomous Underwater Vehicle (HM-AUV)"

- Developed a comprehensive dynamic model for a three-thruster configuration HM-AUV.
- Employed the feedback control method and designed the control scheme, enabling the vehicle to have full autonomy over its 6 DOF.
- Successfully applied both linear (PID) and nonlinear (NMPC) controllers and conducted extensive simulations to demonstrate the vehicle's ability to navigate through complex motions.

Calgary To Space *May 2021 – April 2023*
Orbit Determination Lead

- Led a 3U CubeSat design, operations, and mission planning with a focus on expertise in orbital mechanics.
- Conducted precise GPS data simulations (OEM-719) for efficient tracking and data gathering.
- Collaborated with NovAtel to establish quality control for project precision and reliability.

University of Calgary *January 2022 – April 2022*
Undergraduate Teaching Assistant

- Collaborated with professors to create organized and engaging course materials for PHYS 229 (Modern Physics) and PHYS 259 (Electricity and Magnetism).
- Led tutorial sessions, assisting more than 120 students with course content and answering their questions.