JIGME TSERING

jigtse4@gmail.com
+1(647) 676-9959 ⋄ Toronto, ON

Jigme Tsering Jigme Tsering Portfolio

CAREER OBJECTIVE

Passionate about leveraging AI and computer vision to develop intelligent, real-time solutions that enhance automation and decision-making. Continuously exploring innovative approaches to push the boundaries of machine learning and its real-world applications.

EDUCATION

M.Eng. in Aerospace Engineering, University of Toronto GPA 3.9/4.0, 2021-2023
Relevant Coursework: Control for Robotics, Data Analytics and ML, Intro to Machine Learning, Perception for Robotics, Robotic Motion Planning, Development of UAV, Intro to Reinforcement Learning.

B.Tech. in Aerospace Engineering, Hindustan Institute of Technology and Science, India CGPA 9.3/10, 2014 - 2019

EXPERIENCE

Autonomous Control Developer, aUtoronto Sep 2022 - Jun 2023

- Developed and optimized Stanley, PID, and MPC controllers for the SAE self-driving car challenge.
- Contributed to building a structured and maintainable C++ codebase using the Eigen library and GitLab for version control and continuous improvement.
- Conducted real-world testing to fine-tune controller parameters for better performance in dynamic environments.

SKILLS

Programming & Tools: Python, C++, ROS/ROS2, MATLAB, Git, CI/CD.
AI & ML: Deep Learning, Reinforcement Learning, LLMs, Computer Vision, Model Optimization, Data Analytics, Statistical Modeling
Frameworks & Deployment: PyTorch, TensorFlow, OpenCV, Scikit-Learn, Numpy, Flask, Cloud (AWS), Real-Time Processing

PROJECTS

Multi modal fusion for 3D object Detection Sep 22 - Dec 22

- Analyzed critical 3D object detection for Autonomous Vehicles, focusing on LiDAR-Camera fusion.
- Reviewed and adjusted CLOCs model for multi-model fusion.
- Tested deep learning models for improved data fusion using models like VoxelNet(LiDAR),Second(LiDAR)& Cascade - RCNN(Image).
- Achieved 99.58% average precision in bounding box and 92.6% average precision in bird's eye view, surpassing CLOCs' 99.33%.

Deep Reinforcement Learning based Quadrotor Motion Planning Feb 23 - Apr 23

- Employed and compared PPO, DQN, A2C, & DDPG algorithms for Quadrotor motion planning in AirSim.
- Developed distinct CNN models for Quadrotor control. Evaluated their effectiveness by analyzing trajectories combined with different algorithms and CNNs.
- PPO and DQN showed better results, with success rate of PPO completing goals being 69% and for DQN being 89%. PPO gave shortest path among all algorithms in test.

Sentiment Analysis of Social Media Posts on Russia-Ukraine War Sep 22 - Dec 22

- Analyzed Twitter data on the Russia-Ukraine war to assess global sentiment toward Ukraine.
- Cleaned and prepared text data, scraping from Twitter, for analysis, employing effective preprocessing techniques.
- Developed and trained four classification models to categorize sentiments, enhancing predictive accuracy.
- Identified and categorized key factors driving sentiments, offering insights to improve Ukraine's international image.

Autonomous Colonoscopy Apparatus Sep 21 - Dec 21

- Developed a concept of a vine-type soft robot for automated colonoscopy procedures.
- Utilized Mask RCNN and deep reinforcement learning for polyp identification and sampling.
- Developed a customized dataset using Google Inception-v4 for polyp malignancy detection, achieving 87% accuracy.