

Jigme Tsering

 Jigmiey |  Jigme Tsering |  jigtse4@gmail.com |  + 647-676-9959

CAREER OBJECTIVE

As a Robotics Software Developer, I am dedicated to leveraging my expertise in software engineering, real-time systems, automation, and a strong passion for AI to contribute innovative solutions to cutting-edge robotics projects. With a solid foundation in C++ and Python development and a fervent interest in both robotics and AI, my goal is to play a pivotal role in advancing the field of robotic software development. I am committed to continuously enhancing my technical and problem-solving skills while actively contributing to the intersection of robotics and artificial intelligence.

WORK EXPERIENCE

Control System Developer, aUtoronto

Sep 2022 - Jun 2023

- Executed the implementation and optimization of a controller for autonomous vehicles, actively participating in the control team for the SAE self-driving car challenge.
- Played a key role in the development, tuning, and testing phases of both Stanley and PID-based controllers, and contributed to the ongoing enhancement of the MPC controller for future iterations.
- Fostered collaboration with cross-functional teams to establish a centralized code structure, utilizing C++, the Eigen library, and GitLab for effective Autonomous Vehicle Control with a focus on continuous improvement and testing.

PROJECTS

3D Object Detection with Multimodal Fusion

Multimodal late fusion

- Utilizing 2D image data from a camera and 3D point cloud data obtained from LIDAR, object detection was conducted using a late fusion network called CLOCs.
- Four different modifications were applied to the fusion network for each combination of 2D and 3D detectors.
- The results showed significant improvement, with an average precision that exceeded the original fusion network proposed in CLOC's research paper from 93.75 to 95.33 in the case of moderate difficulty level.

Sentiment Analysis of Social Media Posts on Russia-Ukraine War

Sentiment Computation

- Conducted sentiment analysis on Twitter data related to the Russia-Ukraine war to gauge global perceptions of 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.

Motion Planning with Deep Reinforcement Learning

Quadrotor Motion Planning

- Utilize Microsoft AirSim plugin to operate a Quadrotor in customized scenarios.
- Employed PPO, DQN, A2C, and DDPG algorithms for Quadrotor motion planning within the AirSim environment. Conducted algorithm comparisons.
- Developed distinct CNN models for Quadrotor control. Evaluated their effectiveness by analyzing trajectories combined with different algorithm.

EDUCATION

2021 - 2023	Meng(Aerospace) at University of Toronto	(GPA: 3.9/4.0)
Relevant Coursework :	Control for Robotics, Intro to Reinforcement Learning, Perception for Robotics, Development of Autonomous UAV, Intro to Data Science and Analytics, Robot Motion Planing, Intro to Machine Learning, Foundations of Data Analytics and Machine Learning	
Skills:	Python, Numpy, Matlab, C++, Supervised Learning,ROS, Unsupervised Learning,Pandas,Scikit Learn,SQL ,Reinforcement Learning	
2014 - 2019	Bachelor's Degree at Hindustan Institute of Technology and Science	(CGPA: 9.3/10.0)