Liang Mingjing

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Education

National University of Singapore Aug 2020 - Jun 2021

Master (Mechanical Engineering) GPA: 4.5/5.0

– Relevant Modules: Deep Learning for Robotics, Neural Network, Advance Robotics.

National University of Singapore Research Institute (Suzhou) Sep 2019 - Jul 2020

Joint Educational Programme (Mechanical Engineering) GPA: 4.0/4.0

– Award: Outstanding Student of Joint Educational Programme (ME-CLASS 2019)

Sichuan University Sep 2016 - Jul 2019

Bachelor (Mechanical Engineering) GPA: 3.3/4.0

– Award: Secondary Scholarship of Sichuan University

Experience

X-lab, GAC R&D Center Sep 2021 - present

Autonomous Driving Researcher (Planning and Control team)

– Develop motion planning software and algorithms for autonomous vehicles

– Tackle problems across multiple domains including but not limited to high-level decision-making, multi-agent interactions, and trajectory generation

– Development, optimization, and deployment of neural network for planning tasks

Projects

Data-driven Planning System Jan 2023 - present

– Trained a model using the DAgger algorithm and constrained iLQR for imitation learning.

– Designed a Space-Time attention model for deployment in real-world scenarios.

– Developed behavior constraints for fleet data collection and ensured simulation alignment with real-world deployment.

– Alignment between simulator and real-world deployment

Bézier Curve based Lateral Planning Jan 2022 - Dec 2022

– Provide a smooth feasible path given the target reference line and surrounding objects

– Perform lane change maneuver considering the dynamics of surrounding obstacles

Publications and Patents

Liang, Mingjing, Xun Gao, et al. (2024). "Planning in Autonomous Driving Using Imitation Learning With Research on Data Aggregation". In: *2024 International Symposium on Intelligent Robotics and Systems (ISoIRS)*, pp. 12–16. DOI: 10.1109/ISoIRS63136.2024.00010.

Liang, Mingjing et al. (2022). "Path planning algorithm considering maneuver time and dynamic obstacles". Patent under review.

Skills

Programming Familiar with C++, Python, PyTorch, ROS, CARLA, Linux, Matlab

Last updated: October 9, 2024