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
– Imitation learning for model training at an early stage.
    – DAgger algorithm using constrained iLQR as an expert model
    – Space-Time attention model development and deployment
    – Design of behavior constrains for fleet data collection
    – Alignment between simulator and real-world deployment
– Reinforce learning to exceed the expert model performance (In progress)

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". Paper accepted by ISoIRS 2024.

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