Qiao Sun

Shanghai, China

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EDUCATION

Washington University in St. Louis — Missouri, US

Master of Engineering, Robotics (Software and Controls) (GPA: 3.9) — 2019-2021

EMPLOYMENT

Shanghai QiZhi Institue - MARS Lab (Tsinghua University) — Shanghai, China

Research Assistant — 2021-2022

TECHNICAL SKILLS

Programming and Simulation: Python, C++, Objective-C, Java, ROS, Gazebo, RViz

Machine Learning: Pytorch, Tensorflow, Keras, AWS (SageMaker, RoboMaker, IoT, EC2, S3)

Others: Matlab+Simulink, Git, Docker, Pandas

PUBLICATIONS

[1] Sun, Q., Huang, X., Gu, J., Williams, B. C., & Zhao, H. (2022). P4P: Conflict-Aware Motion Prediction for Planning in Autonomous Driving. arXiv preprint arXiv:2211.01634.

[2] Sun, Q., Huang, X., Williams, B. C., & Zhao, H. (2022). InterSim: Interactive Traffic Simulation via Explicit Relation Modeling. arXiv preprint arXiv:2210.14413.

[3] Sun, Q., Huang, X., Gu, J., Williams, B. C., & Zhao, H. (2022). M2I: From Factored Marginal Trajectory Prediction to Interactive Prediction. In Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (pp. 6543-6552).

[4] Huang, X., Tian, X., Gu, J., Sun, Q., & Zhao, H. (2022). VectorFlow: Combining Images and Vectors for Traffic Occupancy and Flow Prediction. arXiv preprint arXiv:2208.04530.

[5] Gu, J., Sun, Q., & Zhao, H. (2021). Densetnt: Waymo open dataset motion prediction challenge 1st place solution. arXiv preprint arXiv:2106.14160.

SERVICES

Assistant Instructor, Washington University in St. Louis — Fall 2020

Course: Control Systems, Robotics Laboratory

SELECTED PROJECT

InterSim (with a Processing Patent) — November 2022 -

An Open Source Interactive Motion Simulator

- Developed a Python-only closed-loop simulator to test and debug different planners for AVs
- Developed clear APIs for loading multiple large datasets, deploying motion planners, deploying motion predictors, or drawing marks on visualization to debug
- Developed a front-end dashboard webpage for organizing simulations and a front-end online visualization webpage