Haoyuan Jiang

Senior Algorithm Engineer, Baidu, Shenzhen, China
E-mail: jianghaoyuan@zju.edu.cn | Tel: +86 17645653968 | Google scholar

RESEARCH INTERESTS

My main research interest is focused on **Reinforcement Learning, AI Agents, and Embodied AI**, driven by a desire to contribute to the building of AGI algorithms. I have gained substantial experience in reinforcement learning and computer vision through my experience. I worked closely with Prof. Ziyue Li at the University of Cologne and Principal Researcher Hangyu Mao at Sensetime Research.

PUBLICATIONS

Accepted papers

1. **Haoyuan Jiang**, Ziyue Li, Zhishuai Li, Lei Bai, Hangyu Mao, Wolfgang Ketter, Rui Zhao. A General Scenario-Agnostic Reinforcement Learning for Traffic Signal Control, in IEEE Transactions on Intelligent Transportation Systems (**IEEE TITS, 2024, CCF B**).
2. **Haoyuan Jiang**, Ziyue Li, Hua Wei, Xuantang Xiong, Jingqing Ruan, Jiaming Lu, Hangyu Mao, Rui Zhao. X-Light: Cross-City Traffic Signal Control Using Transformer on Transformer as Meta Multi-Agent Reinforcement Learner, in 33rd International Joint Conference on Artificial Intelligence (**IJCAI 2024, CCF A**).
3. Jiaming Lu, Jingqing Ruan, **Haoyuan Jiang**, Ziyue Li, Hangyu Mao, Rui Zhao. DuaLight: Enhancing Traffic Signal Control by Leveraging Scenario-Specific and Scenario-Shared Knowledge, in 23rd of International Conference on Autonomous Agents and Multiagent Systems (**AAMAS 2024, (Oral), CCF B**).
4. Jingqing Ruan, Ziyue Li, Hua Wei, **Haoyuan Jiang**, Jiaming Lu, Xuantang Xiong, Hangyu Mao, Rui Zhao. CoSLight: Co-optimizing Collaborator Selection and Decision-making to Enhance Traffic Signal Control, in ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (**KDD 2024, CCF A**).

Submitted paper

1. **Haoyuan Jiang**, Xuantang Xiong, Ziyue Li, Hangyu Mao, Guanghu Sui, Jingqing Ruan, Yuheng Cheng, Hua Wei, Wolfgang Ketter, Rui Zhao. GuideLight: "Industrial Solutions" Guidance for More Practical Traffic Signal Control Agents. Submitted to **IEEE TITS**.

EDUCATION

Zhejiang University, Hangzhou, China — Sep.2017 — Jun.2019
Master of Software Engineering(Supervisor: Prof. Jianke Zhu) — Cumulative GPA: 3.61/4.00

Jiangsu University of Science and Technology, Zhenjiang, China — Sep.2013 — Jun.2017
Bachelor of Naval Architecture and Ocean Engineering
Postgraduate entrance examination: Fundamentals of Computer Science 127/150; Mathematics 129/150.

RESEARCH & WORK EXPERIENCE

Baidu — Shenzhen, China
Senior Algorithm Engineer — Sep.2023 — Present

- Conducted imitation learning and dataset aggregation(DAgger) to improve the performance of end2end autonomous driving algorithm.
- Conducted reinforcement learning to improve the performance of autonomous driving algorithm, and use multi-agent self-play mechanism to improve vehicle interaction performance.

Sensetime — Shenzhen, China
Researcher — Jul.2019 — Sep.2023

- Led the team members in using reinforcement learning to enhance traffic signal control methods from three perspectives: the algorithm's generalization, collaboration among multiple agents, and industry meetings.
- Using RL and MARL to participate in competitions: video games and power scheduling.
- LLM Agent: Use LLM to automatically generate SQL(Text-to-SQL).
- Design and develop a machine learning platform.

SELECTED AWARDS

- **14th National Graduate Mathematical Modeling Competition, Second Prize.** — 2017
- **11th China College Students' Entrepreneurship Competition, Bronze Award in Zhejiang Province.** — 2018
- **IJCAI 2022 - NEURAL MMO CHALLENGE, Bronze Tier Award.** — 2022