

ZICHUAN LIU

☺ Aspiring Data Scientist

👤 25/05/2000

✉ zichuanliu@mail.nju.edu.cn

🏠 zichuan-liu.github.io

🔍 google scholar

🐙 github.com/zichuan-liu

🎓 EDUCATION

Nanjing University Master of Electronic Engineering 09/2022 - 06/2025

- Grade Point Average (GPA): 89.38/100
- First-Class Scholarship in 2022 & 2023
- Supervised by Prof. Chunlin Chen

Wuhan University of Technology Bachelor of Software Engineering 09/2018 - 06/2022

- GPA: 90.71/100, Overall Ranking: 2/279, Grade Ranking: 15/279
- First-Class Scholarship, Top-up Scholarship, and Outstanding Student
- Supervised by A/Prof. Rui Zhang

♥ RESEARCH INTERESTS

My research interests focus on eXplainable Artificial Intelligence, Trustworthy LLM, and Reinforcement Learning, especially with applications in multiple sequences, offline models, and dynamic environments, allowing them to explicitly adapt to the non-stationary task distributions in real-world.

📖 PUBLICATIONS AND SUBMISSIONS

Accepted Paper (ICML*1, ICLR*1, etc.)

- **Zichuan Liu**, Yingying Zhang, Tianchun Wang, Zefan Wang, Dongsheng Luo, Mengnan Du, Min Wu, Yi Wang, Chunlin Chen, Lunting Fan, Qingsong Wen. Explaining Time Series via Contrastive and Locally Sparse Perturbations. In *International Conference on Learning Representations (ICLR'24)*, Vienna, Austria, 2024: 1-21. (CCF-A)
- Linjie Xu, **Zichuan Liu**, Alexander Dockhorn, Diego Perez-Liebana, Jinyu Wang, Lei Song, Jiang Bian. Higher Replay Ratio Empowers Sample-Efficient Multi-Agent Reinforcement Learning. In *IEEE Conference on Games (IEEE CoG'24)*, Milan, Italy, 2024.
- **Zichuan Liu**, Yuanyang Zhu, Chunlin Chen. NA²Q: Neural Attention Additive Model for Interpretable Multi-Agent Q-Learning. In *International Conference on Machine Learning (ICML'23)*, Honolulu, Hawaii, USA, 2023: 22539-22558. (CCF-A)
- **Zichuan Liu**, Rui Zhang, Chen Wang, Zhu Xiao, Hongbo Jiang. Spatial-Temporal Conv-sequence Learning with Accident Encoding for Traffic Flow Prediction. *IEEE Transactions on Network Science and Engineering (TNSE)*, 2022, 9(3): 1765-1775. (SCI, JCR-Q1, IF=6.6)
- **Zichuan Liu**, Zhaoyang Wu, Meng Wang, Rui Zhang. Multi-View Spatial-Temporal Model for Travel Time Estimation. In *International Conference on Advances in Geographic Information Systems (SIGSPATIAL'21)*, Beijing, China, 2021: 646-649. (CCF-C)

Under Review

- **Three papers** were submitted to ICML'24 (one of the first author)!
- Zefan Wang, **Zichuan Liu**, Yingying Zhang, Aoxiao Zhong, Lunting Fan, Lingfei Wu, Qingsong Wen. RCAGent: Cloud Root Cause Analysis by Autonomous Agents with Tool-Augmented Large Language Models. *arXiv preprint arXiv:2310.16340*, 2023.
- **Zichuan Liu**, Yuanyang Zhu, Zhi Wang, Yang Gao, Chunlin Chen. MIXRTs: Toward Interpretable Multi-Agent Reinforcement Learning via Mixing Recurrent Soft Decision Trees. *arXiv preprint arXiv:2209.07225*, 2022.
- Yuanyang Zhu, Qingpeng Zhao, **Zichuan Liu**, Zhi Wang, Chunlin Chen. Boosting Value Decomposition via Unit-Wise Attentive State Representation for Cooperative Multi-Agent Reinforcement Learning. *arXiv preprint arXiv:2305.07182*, 2023.

INTERNSHIPS

Microsoft Microsoft Research Asia Reseach Intern 11/2023 - Present

- I am currently as a research intern at MSRA Machine Learning Area, where I am advised by Dr. Lei Song and managed by Dr. Jiang Bian.
- Three new papers were submitted to ICML'24, one of which I was the first author.
- One paper was accepted by IEEE COG'24 about sample efficient in RL.
- I'm working on a project to prevent jailbreaks of large language models.

Alibaba Group DAMO & Alibaba Cloud Reseach Intern 06/2023 - 11/2023

- I was a research intern in XAI for Time Series and AIOps, where I was advised by Dr. Qingsong Wen at DAMO Academy (Seattle), also worked close with Dr. Tianchun Wang at PSU, A/Prof. Dongsheng Luo at FIU, A/Prof. Mengnan Du at NJIT.
- One paper was accepted by the *International Conference on Learning Representations* on expaining time series predictions using contrastive and locally sparse perturbations (see THIS SLIDE for more details).
- I have involved in writing a paper on tool-augmented LLMs for cloud root cause analysis, which has been submitted to the *International Conference on Very Large Data Bases*.

Wuhan Token Group Tech. Dept. Android Engineer 03/2019 - 11/2019

- As a core member of the class schedule client, I was independently responsible for the development of seven pages, including schedule service, dialog interface, url redirection, and related interfaces, etc. The daily activity number of its product reached 20000+.
- A personal github project with a maximum of 112 stars and 33 forks.

COMPETITIONS

 **Kaggle:** Kaggle Expert, Highest Ranking: 757th/213,123

- *2019 Data Science Bowl* **TOP 1% & UP2ND, DSB Student Award 3,000\$, 01/2020**
- *University of Liverpool - Ion Switching* **TOP 1% & SOLO Silver, 04/2020**
- *M5 Forecasting - Uncertainty* **TOP 4% & Silver, 07/2020**

 **Data Mining:**

- *ACM SIGSPATIAL 2021 GISCU* **TOP 4th/1295, Second Runner-up, Award 2,500\$, 08/2021**
- *China Collegiate Computing Contest* **TOP 2nd/4133, Award 10,000 ¥, 08/2020**
- *CCF Big Data & Computing Intelligence Contest* **TOP 1% & 3rd/2703, 12/2019**

 **Mathematica Contest:**

- *China Undergraduate Mathematical Contest in Modeling (CUMCM 2020)* **National Second Prize, 10/2020**
- *Mathematica Contest in Modeling (MCM 2020)* **Honorable Mention, 03/2020**

SERVICES

- Reviewer, IEEE Transactions on Network Science and Engineering (TNSE), 2022.
- External reviewer, International Conference on Artificial Neural Networks (ICANN), 2022.
- External reviewer, IEEE Transactions on Computational Social Systems (TCSS), 2022.

MISCELLANEOUS

- I love first person shooter (FPS) games like Overwatch, and my goal is to combine sequence modeling with offline reinforcement learning to create a self-aware AI agent for FPS cheats.
- Swimming is my primary form of exercise. I once achieved sixth place in the freestyle event at the university swimming competition in Hubei Province, and also successfully swam across the Yangtze River in 2019.
- I'm working hard to prepare for the IELTS exam, but my spoken English is not very good. I'll do my best!
-