Zijian (Longino) ZHAO 赵子健

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Education

The Hong Kong University of Science and Technology (Clearwater Bay Campus, Hong Kong) Sep. 2024 – Present
Ph.D. in Civil Engineering (Scientific Computation) *GPA: 3.85/4.2*
Supervisor: *Prof. Sen Li*
Main Research Direction: *Multi-Agent Reinforcement Learning, Deep Learning, Intelligent Transportation, Mobile Computing*

Sun Yat-sen University (Guangzhou Campus) Sep. 2020 – Jul. 2024
B.Eng. in Computer Science and Technology (National Basic Subject Talent Training Plan) *GPA: 4.0/5.0, Rank: Top 10%*
Supervisors: *Prof. Guangxu Zhu (SRIBR & CUHK(SZ)), Prof. Kai Huang, Prof. Chengying Gao, Prof. Ning Liu*
Main Research Direction: *Deep Learning, Domain Adaptation, Wireless Sensing, Music Information Retrieval, Robot Reinforcement Learning*

Experience

Industry-University-Research Student Feb. 2024 – Aug. 2024
Likelihood Lab *Online*
Visiting Student Aug. 2023 – Aug. 2024
Shenzhen Research Institute of Big Data, The Chinese University of Hong Kong (Shenzhen) *Supervisor: Prof. Guangxu Zhu*

Publications

A. Journal Papers:

[1] **Zijian Zhao**, Tingwei Chen, Zhijie Cai, Xiaoyang Li, Hang Li, Qimei Chen, Guangxu Zhu*, "CrossFi: A Cross Domain Wi-Fi Sensing Framework Based on Siamese Network", IEEE Internet of Things Journal (IOT-J), 2025 (JCR-Q1), Paper, Code

[2] Haolong Chen, Hanzhi Chen, **Zijian Zhao**, Kaifeng Han*, Guangxu Zhu*, Yichen Zhao, Ying Du, Wei Xu, Qingjiang Shi, "An Overview of Domain-specific Foundation Model: Key Technologies, Applications and Challenges", Science China Information Sciences (SCIS), 2025 (JCR-Q1), Paper

B. Conference Papers:

[1] **Zijian Zhao***, "Let Network Decide What to Learn: Symbolic Music Understanding Model Based on Large-scale Adversarial Pre-training", 2025 ACM International Conference on Multimedia Retrieval (ICMR), 2025, Paper, Code

[2] **Zijian Zhao**, Zhijie Cai, Tingwei Chen, Xiaoyang Li, Hang Li, Qimei Chen, Guangxu Zhu*, "Does MMD Really Align? A Cross Domain Wireless Sensing Method via Local Distribution", 2025 IEEE/CIC International Conference on Communications in China (ICCC), 2025, Code

[3] Zitao Zhang, Yuhong Huang, **Zijian Zhao**, Zhenshan Bing, Chenglin Cai, Alois Knoll and Kai Huang*, "Autonomous Locomotion of a Rat Robot Based on Model-free Reinforcement Learning", 2024 IEEE International Conference on Advanced Robotics and Mechatronics (ICARM), 2024, Paper

[4] Xiao Liang (supervisor), **Zijian Zhao**, Weichao Zeng, Yutong He, Fupeng He, Yiyi Wang, Chengying Gao*, "PianoBART: Symbolic Piano Music Understanding and Generating with Large-Scale Pre-Training", 2024 IEEE Conference on Multimedia Expo (ICME), 2024 (**oral**), Paper, Code

[5] **Zijian Zhao**, Tingwei Chen, Fanyi Meng, Hang Li, Xiaoyang Li, Guangxu Zhu*, "Finding the Missing Data: A BERT-inspired Approach Against Package Loss in Wireless Sensing", 2024 IEEE International Conference on Computer Communications (INFOCOM) DeepWireless Workshop, 2024, Paper, Code, Dataset

[6] Zitao Zhang, Yuhong Huang, **Zijian Zhao**, Zhenshan Bing, Alois Knoll and Kai Huang*, "A Hierarchical Reinforcement Learning Approach for Adaptive Quadruped Locomotion of a Rat Robot," 2023 IEEE International Conference on Robotics and Biomimetics (ROBIO), 2023 (**Best Paper Finalist**), Paper

[7] Zitao Zhang*, Yuhong Huang, **Zijian Zhao**, Zhenshan Bing, Kai Huang, "Autonomous Locomotion of a Rat Robot Based on Reinforcement Learning", 2023 China Intelligent Robotics Annual Conference (CCF CIRAC), 2023, Paper

C. Technical Reports:

[1] **Zijian Zhao**, Xuming Zhang, Jiayu Wen, Mingwen Liu, Xiaoteng Ma, "Label Unbalance in High-frequency Trading", 2025 (reported by QuantML), ArXiv, Code

[2] **Zijian Zhao**, "A Short Overview of Multi-Modal Wi-Fi Sensing", 2025, ArXiv

[3] **Zijian Zhao**, Zitao Zhang, Kai Huang, "A Trajectory-based Reinforcement Learning Approach for Autonomous Locomotion of a Rat Robot", 2024, Github

D. Working Journal Papers:

[1] **Zijian Zhao**, Sen Li*, "The Impacts of Data Privacy Regulations on Food-Delivery Platforms" (under review, Transportation Research Part C: Emerging Technologies (TR_C))

[2] **Zijian Zhao**, Sen Li*, "Discriminatory Order Assignment and Payment-Setting of On-Demand Food-Delivery Platforms: A Multi-Action and Multi-Agent Reinforcement Learning Framework" (under review, Transportation Research Part E: Logistics and Transportation Review (TR_E))

[3] **Zijian Zhao**, Zhijie Cai, Tingwei Chen, Xiaoyang Li, Hang Li, Qimei Chen, Guangxu Zhu*, "KNN-MMD: Cross Domain Wireless Sensing via Local Distribution Alignment" (under review, IEEE Transactions on Mobile Computing (TMC)), ArXiv, Code, Dataset

[4] **Zijian Zhao**, Fanyi Meng, Zhonghao Lyu, Hang Li, Xiaoyang Li, Guangxu Zhu*, "CSI-BERT2: A BERT-Inspired Framework for Efficient CSI Prediction and Recognition in Wireless Communication and Sensing" (under review, IEEE Transactions on Mobile Computing (TMC)), ArXiv

[5] Shiting Chen*, **Zijian Zhao**, Jinsong Chen*, "Each to Their Own: Exploring the Optimal Embedding in RAG" (under review, Transactions of the Association for Computational Linguistics (TACL)), ArXiv

[6] Tingwei Chen, Yantao Wang, Hanzhi Chen, **Zijian Zhao**, Xinhao Li, Nicola Piovesan, Guangxu Zhu*, Qingjiang Shi, "Modelling the 5G Energy Consumption using Real-world Data: Energy Fingerprint is All You Need" (under revise, IEEE Wireless Communications Letters (WCL)), ArXiv, Code

[7] **Zijian Zhao**, Sen Li*, "A Centralized Reinforcement Learning Framework for Large-Scale Dynamic Trip-Vehicle Assignment" (under way, to be submitted to Proceedings of the National Academy of Sciences (PNAS))

E. Working Conference Papers:

[1] **Zijian Zhao**, Sen Li*, "Triple-BERT: Do We Really Need MARL for Ride-Sharing Order Dispatch?" (under review, 2025 Annual Conference on Neural Information Processing Systems (NeurIPS))

[2] **Zijian Zhao**, Sen Li*, "One Step is Enough: Multi-Agent Reinforcement Learning based on One-Step Policy Optimization for Order Dispatch on Ride-Sharing Platforms" (under review, 2026 Annual AAAI Conference on Artificial Intelligence (AAAI)), ArXiv, Code

[3] **Zijian Zhao**, Dian Jin, Zijing Zhou, Xiaoyu Zhang*, "Automatic Stage Lighting Control: Is it a Rule-Driven Process or a Generative Task?" (under review, 2025 ACM International Conference on Multimedia (MM)), ArXiv, Code, Dataset

[4] **Zijian Zhao**, Sen Li*, "Multi-Agent Reinforcement Learning for Order Assignment and Payment Setting on Food-Delivery Platforms: The Implicit Algorithmic Biases" (under review, 2025 International Symposium on Transportation Data & Modelling (ISTDM))

[5] Chuxue Cao, Mengze Li, Juntao Dai, Jinluan Yang, **Zijian Zhao**, Shengyu Zhang, Weijie Shi, Chengzhong LIU, Sirui Han, Yike Guo, "Towards Advanced Mathematical Reasoning for LLMs via First-Order Logic Theorem Proving" (under review, 2025 Conference on Empirical Methods in Natural Language Processing (EMNLP))

[6] **Zijian Zhao**, Tingwei Chen, Fanyi Meng, Zhijie Cai, Hang Li, Xiaoyang Li, Guangxu Zhu*, "LoFi: Vision-Aided Label Generator for Wi-Fi Localization and Tracking Sensing" (to be submitted to 2026 IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), available in ArXiv), ArXiv

[7] Tingwei Chen, Jiayi Chen, **Zijian Zhao**, Haolong Chen, Liang Zhang*, Guangxu Zhu*, "First Token Probability Guided RAG for Telecom Question Answering" (to be submitted to 2026 IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), available in ArXiv), ArXiv

[8] **Zijian Zhao***, Dian Jin, Zijing Zhou, "Zero-Effort Image-to-Music Generation: A RAG-based VLM Approach" (under way)

Patents

[1] **Zijian Zhao**, Guangxu Zhu, Qimei Chen, Kaifeng Han, "Method for Object Recognition Using Model Based on Few-Shot Learning and Related Equipment" (Shenzhen Big Data Research Institute, Patent Number: ZL202411074110, 2024)

[2] **Zijian Zhao**, Kaifeng Han, Qimei Chen, Guangxu Zhu, Xiaoyang Li, Hang Li, "Channel State Information Recovery Method and Apparatus, Equipment, Storage Medium" (Shenzhen Big Data Research Institute, Patent Number: ZL2024102321250, 2024)

[3] **Zijian Zhao**, Guangxu Zhu, Kaifeng Han, Xiaoyang Li, Hang Li, "Method for Classifying Data Using Model Based on Few-Shot Learning and Related Equipment" (Shenzhen Big Data Research Institute, Application Number: 2024108392137, 2024)

[4] **Zijian Zhao**, Guangxu Zhu, Shen Chao, Shi Qingjiang, Han Kaifeng, "Personnel Detection Method, Device, Electronic Equipment, and Storage Medium" (Shenzhen Big Data Research Institute, Application Number: 2024105419689, 2024)

[5] Kai Huang, Zitao Zhang, **Zijian Zhao**, Ruoyi Tao, "A Motion Control Method for Small Bionic Rat Based on Reinforcement Learning" (Artificial Intelligence and Digital Economy Guangdong Provincial Laboratory (Guangzhou) & Sun Yat-sen University, Application Number: 2023116499786, 2023)

Professional Activities

1. Society Membership: IEEE Student Membership, ACM Student Membership, CCF Student Membership
2. TPC Membership: IEEE WCNC Workshop 2024-2025, IEEE PIMRC Workshop 2024-2025, IEEE/CIC ICCC Workshop 2025
3. Technical Reviewer: ICLR 2025, ACL ARR 2025, IEEE ICME 2024-2025, IEEE ICASSP 2024-2025, IEEE IJCNN 2025, IEEE WCNC 2024-2025, IEEE/CIC ICCC 2025, IEEE AVSS 2025, IEEE MLSP 2025, BTR 2025, IEEE PIMRC 2024, IEEE SMC 2023, IEEE WCL, MTAP

Teaching Activities

1. Interview: HKUST JUPAS 2025

Skills and Interests

1. Programming Skills:

- Proficient in: Python, PyTorch, C/C++ (CCF-CSP:320, Top 0.8%)
- Familiar with: Matlab, MySQL, Git, Linux, ESP32, LLM API
- Knowledgeable in: TensorFlow, Java, Web Scraping

2. Language:

- English (IELTS:6.5, CET-4:605, CET-6: 561)
- Chinese (mother tongue)

3. Interests:

- Proficient in: Electric Guitar, Acoustic Guitar, Keyboard (Grade 10)
- Familiar with: Songwriting, Extreme Vocals, Hulusi, Ukulele, Music Theory (Grade C)
- Knowledgeable in: Electric Bass, Piano, Drums, Harmonica

Main Honors And Awards

[1] Best Paper Award in Biomimetics Finalist in IEEE International Conference on Robotics and Biomimetics (ROBIO) 2023

[2] The Hong Kong University of Science and Technology RedBird PhD Award

[3] First-class Scholarship for Outstanding Student of Sun Yat-sen University

[4] Meritorious Winner in the Mathematical Contest in Modeling

[5] Runner Up Prize (No.2 out of 776 teams from 83 countries) in AI/ML for 5G-Energy Consumption Modeling by ITU AI/ML in 5G Challenge

[6] Third Prize (No.6 out of 287 teams) in The First Wi-Fi Sensing Contest by Huawei

[7] Provincial First Prize in the Chinese Mathematics Competitions

[8] Second Prize & Provincial First Prize in the National High School Mathematics League