

# Zijian (Longino) ZHAO 赵子健

**Homepage:** <https://zijianzhao.netlify.app>  
**Github:** <https://github.com/RS2002>  
**Gitee:** [https://gitee.com/zzj\\_rs](https://gitee.com/zzj_rs)  
**ORCID:** <https://orcid.org/0000-0002-3326-9650>

**Google Scholar:** <https://scholar.google.com/citations?user=XkA3qCcAAAAJ>  
**OpenReview:** [https://openreview.net/profile?id=~Zijian\\_Zhao7](https://openreview.net/profile?id=~Zijian_Zhao7)  
**Email:** [zzhaock@connect.ust.hk](mailto:zzhaock@connect.ust.hk)

## Education

<b>The Hong Kong University of Science and Technology (Clearwater Bay Campus, Hong Kong)</b> <i>Ph.D. in Civil Engineering (Scientific Computation)</i> <b>Supervisor:</b> Prof. Sen Li <b>Main Research Direction:</b> Multi-Agent Reinforcement Learning, Deep Learning, Intelligent Transportation	Sep. 2024 – Present GPA: 3.85/4.2
<b>Sun Yat-sen University (Guangzhou Campus)</b> <i>B.Eng. in Computer Science and Technology (National Basic Subject Talent Training Plan)</i> <b>Supervisors:</b> Prof. Guangxu Zhu (SRI BR & CUHK(SZ)), Prof. Kai Huang, Prof. Chengying Gao, Prof. Ning Liu <b>Main Research Direction:</b> Deep Learning, Wireless Sensing, Embodied AI, Music Information Retrieval	Sep. 2020 – Jul. 2024 GPA: 4.0/5.0, Rank: Top 10%

## Experience

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

## Publications

\*: Corresponding Author; <sup>1</sup>: Equal Contributions

### 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] 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](#)
- [3] 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](#)
- [4] **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](#)
- [5] 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](#)
- [6] 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

### 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] Tingwei Chen, Jiayi Chen, **Zijian Zhao**, Haolong Chen, Liang Zhang\*, Guangxu Zhu\*, "First Token Probability Guided RAG for Telecom Question Answering", 2025, [ArXiv](#)

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

## D. Working 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 revise, IEEE Transactions on Mobile Computing (TMC)), [ArXiv](#), [Code](#), [Dataset](#)
- [4] 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](#)
- [5] **Zijian Zhao**, Fanyi Meng, Hang Li, Xiaoyang Li, Guangxu Zhu\*, "CSI-BERT2: A BERT-Inspired Framework for Efficient CSI Prediction and Recognition in Wireless Communication and Sensing" (to be submitted, available in ArXiv), [ArXiv](#)
- [6] **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))
- [7] **Zijian Zhao**<sup>1</sup>, Dian Jin<sup>1</sup>, Zijing Zhou<sup>1</sup>, 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](#)
- [8] **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" (under review, 2025 IEEE/CIC International Conference on Communications in China (ICCC))
- [9] **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))
- [10] 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))
- [11] **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](#)
- [12] **Zijian Zhao**, Sen Li\*, "GRPO Beyond LLMs: A Highly Efficient MARL Framework for Ride Pooling" (under way, to be submitted to 2026 Annual AAAI Conference on Artificial Intelligence (AAAI))
- [13] **Zijian Zhao**, Sen Li\*, "MA2SA: A Centralized Reinforcement Learning Framework for Large-Scale Order Dispatching" (under way)

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## 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)

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## Professional Activities

- 1. Society Membership:** ACM Student Membership, CCF Student Membership (granted for free)
- 2. TPC Membership:** IEEE WCNC 2024-2025, IEEE PIMRC 2024
- 3. Technical Reviewer:** ICLR 2025, ACL ARR 2025, IEEE ICME 2024-2025, IEEE ICASSP 2024-2025, IEEE IJCNN 2025, IEEE WCNC 2024-2025, IEEE AVSS 2025, IEEE MLSP 2025, BTR 2025, IEEE PIMRC 2024, IEEE SMC 2023, IEEE WCL, MTAP

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## Teaching Activities

- 1. Interview:** HKUST JUPAS 2025

## Skills and Interests

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### 1. Programming Skills:

- Proficient in: Python, PyTorch, C/C++ (CCF-CSP:320, Top 0.8%)
- Familiar with: Matlab, MySQL, Git, Linux, ESP32

### 2. 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

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- [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