

# 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: 3.9/4.2

**Supervisor:** Prof. Sen Li

**Main Research Direction:** Multi-Agent Reinforcement Learning, Deep Learning, Intelligent Transportation

### 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%

*Change major from Electronic Information (Shenzhen Campus) to Computer Science (Guangzhou Campus) in 2021.*

**Supervisors:** Prof. Guangxu Zhu (SRIBR & CUHK(SZ)), Prof. Kai Huang, Prof. Chengying Gao, Prof. Ning Liu

**Main Research Direction:** Wireless Sensing, Embodied AI, Music Information Retrieval

**Ranking First in:** Computer Programming, Principles of Compilers, Distributed Systems, Embedded Systems, Complex Variables, Mathematical Analysis, Advanced Algebra, Data Structures and Algorithms, Probability and Statistics, Discrete Mathematics

**Course Projects :** [https://gitee.com/zzj\\_rs/undergraduate-programs](https://gitee.com/zzj_rs/undergraduate-programs)

## Experience

### Industry-University-Research Student

Feb. 2024 – Aug. 2024

*Likelihood Lab*

*Part-time, Online*

### Visiting Student

Aug. 2023 – Aug. 2024

*Shenzhen Research Institute of Big Data*

*Associated with Chinese University of Hong Kong (Shenzhen)*

## 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)
- [2] **Zijian Zhao**, Sen Li\*, "The Impacts of Data Privacy Regulations on Food-Delivery Platforms" (under review, Transportation Research Part C: Emerging Technologies (TR\_C))
- [3] **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 revise, Transportation Research Part E: Logistics and Transportation Review (TR\_E))
- [4] **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))
- [5] **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" (under review, IEEE Wireless Communications Letters (WCL))
- [6] 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" (under review, Science China Information Sciences (SCIS))
- [7] 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))
- [8] **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)
- [9] Tingwei Chen, Jiayi Chen, **Zijian Zhao**, Haolong Chen, Liang Zhang\*, Guangxu Zhu\*, "First Token Probability Guided RAG for Telecom Question Answering" (to be submitted, available in ArXiv)

### B. Computer 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
- [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

- [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**)
- [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
- [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**)
- [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
- [7] **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))
- [8] **Zijian Zhao**, Sen Li\* "Triple-BERT: Do We Really Need MARL in Large-Scale Order Dispatching?" (under way, 2025 Annual Conference on Neural Information Processing Systems (NeurIPS))
- [9] **Zijian Zhao**<sup>1</sup>, Dian Jin<sup>1</sup>, Zijing Zhou<sup>1</sup>, Xiaoyu Zhang\* "Skip-BART: Is Stage Lighting the Inspiration for Art or Mechanized Formula?" (under way, 2025 ACM International Conference on Multimedia (MM))

### C. Other Conference Papers:

- [1] **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), 2025)

### D. ArXiv Technical Reports:

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

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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 2025, IEEE ICME 2024-2025, IEEE ICASSP 2024-2025, IEEE IJCNN 2025, IEEE WCNC 2024-2025, IEEE PIMRC 2024, IEEE SMC 2023, IEEE MTAP

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## Skills and Interests

- 1. Programming Skills:**
  - Proficient in: C/C++ (CCF-CSP:320, Top 0.8%), Python, Matlab, Pytorch
  - Familiar with: 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

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## 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

## References

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**Prof. Sen Li:** Assistant Professor, Department of Civil and Environmental Engineering, The Hong Kong University of Science and Technology, E-mail: cesli@ust.hk

**Prof. Guangxu Zhu:** Deputy Director & Senior Research Scientist & Adjunct Associate Professor, Shenzhen Research Institute of Big Data, The Chinese University of Hong Kong (Shenzhen), E-mail: gxzhu@sribd.cn

**Prof. Xiaoyang Li:** Research Scientist & Adjunct Assistant Professor, Shenzhen Research Institute of Big Data, The Chinese University of Hong Kong (Shenzhen), E-mail: lixiaoyang@sribd.cn

**Dr. Hang Li:** Research Scientist, Shenzhen Research Institute of Big Data, The Chinese University of Hong Kong (Shenzhen), E-mail: hangdavidli@sribd.cn