

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 & Multi-action Reinforcement Learning, Deep Learning, Smart 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: Wi-Fi Sensing, Music Information Retrieval, Robot Reinforcement Learning

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

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

- [1] 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
- [2] 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**)
- [3] **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
- [4] 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**)
- [5] 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
- [6] **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 C: Emerging Technologies (TR_C))
- [7] **Zijian Zhao**, Sen Li*, "Multi-Action and Multi-Agent Reinforcement Learning for Discriminatory Order Assignment and Payment Setting on Food-Delivery Platform" (under review, Symposium of the European Association for Research in Transportation (hEART), 2025)
- [8] **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" (under review, IEEE Internet of Things Journal (IOT))
- [9] **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))
- [10] **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))
- [11] **Zijian Zhao***, "Let Network Decide What to Learn: Symbolic Music Understanding Model Based on Large-scale Adversarial Pre-training", (under review, ACM International Conference on Multimedia Retrieval (ICMR), 2025)
- [12] 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))
- [13] 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 review, IEEE Wireless Communications Letters (WCL))

[14] Tingwei Chen, Jiayi Chen, **Zijian Zhao**, Haolong Chen, Liang Zhang*, Guangxu Zhu*, "First Token Probability Guided RAG for Telecom Question Answering" (under revise, available in ArXiv)

[15] **Zijian Zhao**, Fanyi Meng, Hang Li, Xiaoyang Li, Guangxu Zhu*, "Mining Limited Data Sufficiently: A BERT-inspired Approach for CSI Time Series Application in Wireless Communication and Sensing" (to be submitted, available in ArXiv)

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 (supervisor), Zitao Zhang (supervisor), **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:** CCF Student Membership (granted for free)
- 2. **TPC Membership:** IEEE WCNC 2024-2025, IEEE PIMRC 2024
- 3. **Technical Reviewer:** 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

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. **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

- A. **Graduate Studies:**
 - a. **School Award:**
 - 1. The Hong Kong University of Science and Technology RedBird PhD Award (received a bonus of 40,000 HKD)
- B. **Undergraduate Studies:**
 - a. **International Award:**
 - 1. Meritorious Winner in the Mathematical Contest in Modeling (served as team leader and supervisor)
 - 2. Second Prize in Asia and Pacific Mathematical Contest in Modeling (served as team leader)
 - 3. Runner Up Prize (No.2 out of 776 teams from 83 countries) in AI/ML for 5G-Energy Consumption Modelling by ITU AI/ML in 5G Challenge (reached the final, received a bonus of 3,000 CHF, Supervisor: Dr. Guangxu Zhu)
 - 4. Best Paper Award in Biomimetics Finalist in IEEE International Conference on Robotics and Biomimetics (ROBIO) 2023
 - b. **National Award:**
 - 1. Third Prize (No.6 out of 287 teams) in The First Wi-Fi Sensing Contest by Huawei (reached the final, received a bonus of 20,000 CNY, Supervisor: Dr. Guangxu Zhu, Dr. Xiaoyang Li, Dr. Hang Li)
 - 2. Bronze Award in China College Algorithm Design & Program Challenge Contest
 - 3. Third Prize in the National College Students' IT Skills Competition of Chuanzhi Cup
 - c. **Provincial Award:**
 - 1. Provincial First Prize in the Chinese Mathematics Competitions
 - 2. Provincial Second Prize in SPSS University Contest in Modeling (supervisor: Prof. Qi Liang, Prof. Ruyu Wang)
 - 3. Provincial Third Prize in the Chinese Mathematics Competitions (served as team leader)
 - 4. Provincial Third Prize in the National College Students' Mathematics Competition of Huaqiao Cup
 - d. **School Award:**
 - 1. First-class Scholarship for Outstanding student of Sun Yat-sen University (received a bonus of 4,000 CNY)
 - 2. First Prize in Sun Yat-sen University Novice Programming Competition (served as team leader)

3. Wining Prize in Sun Yat-sen University Electronic Design Creative Competition (served as team leader)
4. Third Prize and Outstanding Resume Award in Sun Yat-sen University Future Job Hunting Competition (received a bonus of 300 CNY)

e. Others:

1. Elite Scholarship of Likelihood Lab (received a bonus of 5,000 CNY)

References

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