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1 Curriculum Vitae

1.1 Education

09/2009-02/2016	PhD	Computer Science	Hong Kong University of Science and Technology
09/2005-07/2009	Bachelor	Computer Science	University of Science and Technology of China

1.2 Work experience

07/2023 - presently	Associate Professor School of computer Science and Software Engineering, Shenzhen University
11/2023 - presently	Adjunct Assistant Professor Data Science and Analytics Thrust Hong Kong University of Science and Technology (Guangzhou)
11/2017 - 006/2023	Assistant Professor School of computer Science and Software Engineering, Shenzhen University
02/2020 - 06/2020	Guest Lecturer Department of CSE, Hong Kong University of Science and Technology
03/2016 - 10/2017	Post-doctoral Research Fellow Department of IELM, Hong Kong University of Science and Technology

1.3 Selected awards

- First Prize of Science and Technology Award, Guangdong Artificial Intelligence Industry Association, 2025
- First Prize of Teaching Achievement Award, Guangdong Province, 2025
- Second Prize of Teaching Achievement Award, China Electronics Association, 2025
- Outstanding Department Head, Shenzhen University, 2024
- Winner of Verbal Track, IJCAI Machine Automated IQ Test Competition (MAIQ), 2021
- Winner of Diagram Track, IJCAI Machine Automated IQ Test Competition (MAIQ), 2021

- Outstanding Undergraduate Course Award, Shenzhen University, 2021
- Annual Excellence Award, Shenzhen University, 2020
- Tencent "Rhino-bird" Open Fund Young Researcher Award, 2019
- Best New Faculty Award, School of CSSE, Shenzhen University
- Excellence Award, "Torch" Teaching Program, Shenzhen University, 2019
- Second Price of the 9th SZU Teaching Competition, School of CSSE, Shenzhen University, 2019
- Shenzhen "Peacock" High-level Talent (Category C), 2018

1.4 Funded research projects

- PI, *Theory and Application of Nonmonotonic Reasoning in Characterizing Action Languages*, National Natural Science Foundation of China (NSFC), Youth Research Program, 2019-2021
- PI, *Integrating Knowledge Representation and Reasoning into Deep Reinforcement Learning*, GuangDong Basic and Applied Basic Research Foundation, General Program, 2022-2024
- PI, *Embedding Explicit Knowledge in Deep Reinforcement Learning*, Finance Commission of Shenzhen Municipality, Open Project, 2020-2022
- PI, *Knowledge-Enhanced Deep Reinforcement Learning*, High-level University Construction Fund of Shenzhen University, 2019-2020
- PI, *Logic Based Artificial Intelligence in Game Playing*, Tencent Open Fund, 2019-2020
- Co-I, *Crowd situation calculus based on multi-dimensional deep-perception information*, the Joint Funds of National Natural Science Foundation of China (NSFC), Key Program, 2021-2024

1.5 Professional service

- Area Chair: International Joint Conference on Artificial Intelligence (IJCAI) 2025
- Session Chair:
  - International Joint Conference on Artificial Intelligence (IJCAI) 2025
  - IEEE International conference on Data Engineering (ICDE) 2024
  - IEEE International conference on Bioinformatics and Biomedicine (BIBM 2024)
  - AAAI conference on Artificial Intelligence (AAAI) 2023
  - IEEE International conference on Data Engineering (ICDE) 2023
- Senior member/member of Program Committee for

  - AAAI Conference on Artificial Intelligence (AAAI) 2022, 2021, 2020, 2019, 2018, 2015
  - International Joint Conference on Artificial Intelligence (IJCAI) 2022, 2021, 2020, 2019, 2018
  - The Joint Conference of the 59th Annual Meeting of the Association for Computational Linguistics and the 11th International Joint Conference on Natural Language Processing (ACL-IJCNLP) 2022, 2021
  - The Conference on Neural Information Processing Systems (NeurIPS) 2021
  - The Conference on Empirical Methods in Natural Language Processing (EMNLP) 2021, 2020
  - International Conference on Principles of Knowledge Representation and Reasoning (KR) 2014, 2012

- Local Chair: International Conference on Edge Computing and IoT (EAI ICECI) 2021

- Reviewer for
  - Machine Learning
  - Artificial Intelligence
  - Data Intelligence
  - AAAI Conference on Artificial Intelligence (AAAI) 2025, 2024, 2023, 2022, 2021, 2020, 2019, 2018, 2015
  - International Joint Conference on Artificial Intelligence (IJCAI) 2025, 2024, 2023, 2022, 2021, 2020, 2019, 2018
  - The Joint Conference of the 59th Annual Meeting of the Association for Computational Linguistics and the 11th International Joint Conference on Natural Language Processing (ACL-IJCNLP) 2024, 2022, 2021
  - The Conference on Neural Information Processing Systems (NeurIPS) 2024, 2023, 2021
  - The Conference on Empirical Methods in Natural Language Processing (EMNLP) 2024, 2022, 2021, 2020
  - International Conference on Principles of Knowledge Representation and Reasoning (KR) 2024, 2018, 2014, 2012

1.6 Teaching experience

- Postgraduate Courses:
  - Combinatorial Mathematics, Shenzhen University, 2025, 2024, 2023, 2022
  - Natural Language Processing, Hong Kong University of Science and Technology, 2020

- Undergraduate Courses:
  - Discrete Mathematics, Shenzhen University, 2025, 2024, 2023, 2022, 2021, 2020, 2019, 2018

– Compilers, Shenzhen University, 2025, 2024, 2023, 2022, 2021, 2020, 2019
– Natural Language Processing, Shenzhen University, 2019, 2020
– Principals of Programming Languages, Shenzhen University, 2018

2 Publication List

Co-first author[#], Corresponding author[*]

[1] **Haodi Zhang**, Xinhe Zhang, Jihua Zhou, Kaishun Wu, Yuanfeng Song, Raymond Chi-Wing Wong. Speech-to-Visualization: Toward End-to-End Speech-Driven Data Visualization Generation from Natural Language Questions, in *Proceedings of European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases*, 2025: 437-453 (ECML-PKDD 2025, CCF-B)

[2] **Haodi Zhang**, Xiaohui Tang, Xinhe Zhang, Jihua Zhou and Yuanfeng Song, VoiceVis-System: End-to-End Voice-driven Data Visualization Generation from Natural Language Questions, in *Proceedings of the Conference on Information and Knowledge Management* (CIKM 2025 Demo)

[3] **Haodi Zhang**, Xiangyu Zeng, Junyang Chen, Yuanfeng Song*, Rui Mao, Fangzhen Lin*. Deduction with Induction: Combining Knowledge Discovery and Reasoning for Interpretable Deep Reinforcement Learning, in *Proceedings of 34th International Joint Conference on Artificial Intelligence*, 2025: 6984-6992 (IJCAI 2025, CCF-A)

[4] Yichi Wang, Tian Huang, DanDan Huang, ZhaoHai Bai, Xuan Wang, Lin Ma, **Haodi Zhang***. Learning Dynamical Coupled Operator For High-dimensional Black-box Partial Differential Equations, in *Proceedings of 34th International Joint Conference on Artificial Intelligence*, 2025: 9393-9401 (IJCAI 2025, CCF-A)

[5] **Haodi Zhang**, Jiawei Wen, Jiahong Li, Yuanfeng Song, Liang-Jie Zhang, Lin Ma*. SSPNet: Leveraging Robust Medication Recommendation with History and Knowledge, in *Proceedings of 34th International Joint Conference on Artificial Intelligence* 2025: 9465-9473 (IJCAI 2025, CCF-A)

[6] **Haodi Zhang**, Siqi Ning, Qiyong Zheng, Yuanfeng Song, Liang-Jie Zhang. HealthLens: A Natural Language Querying System for Interactive Visualization of Electronic Health Records, in *Proceedings of 34th International Joint Conference on Artificial Intelligence* 2025: 11123-11126 (IJCAI 2025 Demo)

[7] Yuanfeng Song, Jinwei Lu*, Yuanwei Song, Caleb Chen Cao, Raymond Chi-Wing Wong, **Haodi Zhang***. FeVisQA: Free-form Question Answering over Data Visualizations, in *Proceedings of IEEE International Conference on Data Engineering*, 2025: 2726-2739 (ICDE 2025, CCF-A)

[8] Jinwei Lu, Yuanfeng Song*, **Haodi Zhang***, Chen Zhang, Kaishun Wu, Raymond Chi-Wing Wong. Towards Robustness of Text-to-Visualization Translation against Lexical and Phrasal Variability, in *Proceedings of IEEE International Conference on Data Engineering*, 2025: 793-806 (ICDE 2025, CCF-A)

[9] **Haodi Zhang**, Xiangyu Zeng, Chen Zhang, Yuanfeng Song, Kaishun WU. HRLMS: A Data-driven Hierarchical Reinforcement Learning System for Interactive Rule Intervention and Visualization, in *Proceedings of IEEE International Conference on Data Engineering*, 2025: 4584-4587 (ICDE 2025 Demo)

[10] Zhidan Liu, Yingqian Zhou, Xiaosi Liu, **Haodi Zhang**, Yabo Dong, Dongming Lu, Kaishun Wu. Learning Road Network Index Structure for Efficient Map Matching, in *IEEE Transactions on Knowledge and Data Engineering* 37(1): 423-437, 2025 (TKDE, CCF-A)

[11] **Haodi Zhang**, Yichi Wang, Yifan Jian, Jiahui Jiang, Zhaohai Bai, Lin Ma. Climate Downscaling Using Neural Operator: Spatiotemporal Multimodal Fusion Operator with State-Query Coupled Kernel, in *Proceedings of IEEE International Conference on Acoustics, Speech and Signal Processing*, 2025: 1-5 (ICASSP 2025, CCF-B)

[12] **Haodi Zhang**, Junyu Yang, Jinyin Nie, Peirou Liang, Kaishun Wu, Defu Lian, Rui Mao and Yuanfeng Song. Efficient Data Labeling by Hierarchical Crowdsourcing with Large Language Models, in *Proceedings of International Conference on Computational Linguistics*, 2025: 11290-11303 (COLING 2025, CCF-B)

[13] **Haodi Zhang**, Xinhe Zhang, Min Cai, Weicheng Wang, Yuanfeng Song. Prompt-Based Relation Extraction By Reasoning with Contextual Knowledge, in *Proceedings of 29th Pacific-Asia Conference on Knowledge Discovery and Data Mining*, 2025: 52-64 (PAKDD 2025)

[14] **Haodi Zhang**, Yong Ding, Liang-Jie Zhang, Weicheng Wang, Yuanfeng Song, Di Jiang. Dual Learning between Molecules and Natural Language, in *Proceedings of 29th Pacific-Asia Conference on Knowledge Discovery and Data Mining*, 2025: 393-404 (PAKDD 2025)

[15] **Haodi Zhang**, Xinrui Zhu, Xuan Wang, Hanlin Gu, Yuanfeng Song, Lin Ma. Natural Language to Overpass Query: A Multi-Step Approach Using Task Decomposition and Key-Value Correction, in *Proceedings of 26th IEEE International Conference on Mobile Data Management*, 2025: 1-11 (MDM 2025)

[16] Gang Wang, Jing Yang, Xia Liu, **Haodi Zhang**, Xiangbo Xu, Jiafa Luo, Zhaohai Bai, Lin Ma. Enhancing crop production in the Haihe Basin while addressing challenges related to water quantity and quality, in *Science of The Total Environment*, Volume 955, (2024): 176800 (JCR Q1, IF=8.2)

[17] Liang-Jie Zhang, Huan Chen, Sheng He, Changhu Li, Junyang Chen, **Haodi Zhang**, Wenfeng Du. COSIS: An AI-Enabled Digital Transformation Framework Integrating Large Language Models and Key Performance Indicators, in *Proceedings of 21st Services Computing - International Conference*, 2024: 74-99 (SCC 2024)

[18] Yuanfeng Song, Jinwei Lu, Xuefang Zhao, Raymond Chi-Wing Wong, **Haodi Zhang***. Demonstration of FeVisQA: Free-Form Question Answering over Data Visualization, in *Proceedings of IEEE International Conference on Data Engineering*, 2024: 5417-5420 (ICDE 2024 Demo)

[19] **Haodi Zhang**, Jinyin Nie, Zeming Liu, Dong Lei, and Yuanfeng Song. Automatic SQL Query Generation from Code Switched Natural Language Questions on Electronic Medical Records, in *Proceedings of IEEE International Conference on Bioinformatics and Biomedicine*, 2024: 2844-2851 (BIBM 2024, CCF-B)

[20] **Haodi Zhang**, Junyu Yang, Wenxi Huang, Min Cai, Jiahong Li, Chen Zhang and Kaisu Wu. Recognizing Textual Entailment by Hierarchical Crowdsourcing with Diverse Labor Costs, in *Proceedings of 27th International Conference on Computer Supported Cooperative Work in Design*, 2024: 453-458 (CSCWD 2024)

[21] **Haodi Zhang**, Wenxi Huang, Zhenhan Su, Junyang Chen, Di Jiang, Lixin Fan, Chen Zhang, Defu Lian and Kaishun Wu. Hierarchical Crowdsourcing for Data Labeling with Heterogeneous Crowd. *Proceedings of IEEE International Conference on Data Engineering*, 2023: 1234-1246 (ICDE 2023, CCF-A)

[22] **Haodi Zhang**, Jiahong Li, Yichi Wang, and Yuanfeng Song. Integrating Automated Knowledge Extraction with Large Language Models for Explainable Medical Decision-Making. *Proceedings of IEEE International Conference on Bioinformatics and Biomedicine*, 2023: 1710-1717 (BIBM 2023, CCF-B)

[23] Jin Zhang, Defu Lian, **Haodi Zhang**, Baoyun Wang, Enhong Chen. Query-aware Quantization for Maximum Inner Product Search. *Proceedings of the Thirty-Seventh AAAI Conference on Artificial Intelligence*, 2023: 4875-4883 (AAAI 2023, CCF-A)

[24] Chen Zhang#, **Haodi Zhang**#*, Weiteng Xie, Nan Liu, Kaishun Wu and Lei Chen. Where To: Crowd-Aided Path Selection by Selective Bayesian Network. *IEEE Transactions on Knowledge and Data Engineering*, 35(1): 1072-1087, 2023 (TKDE, CCF-A)

[25] Chen Zhang#, **Haodi Zhang**#*, Qifan Li, Kaishun Wu, Di Jiang, Yuanfeng Song, Peiguang Lin, and Lei Chen. Burstiness-Aware Web Search Analysis on Different Levels of Evidences. *IEEE Transactions on Knowledge and Data Engineering*, 35(3): 2341-2352, 2023. (TKDE, CCF-A)

[26] Junyang Chen, Mengzhu Wang, **Haodi Zhang**, Zhiguo Gong, Zhidan Liu, Kaishun Wu, Victor Leung, IRLM. Inductive Representation Learning Model for Personalized POI Recommendation. *IEEE Transactions on Computational Social Systems* 10(5): 2827-2836 (2023) (TCSS, CCF-B)

[27] **Haodi Zhang**, Zhenhao Chen, Junyang Chen, Yi Zhou, Defu Lian, Kaishun Wu, Fangzhen Lin. Dynamic Decision Making Framework Based on Explicit Knowledge Reasoning and Deep Reinforcement Learning (in Chinese), *Journal of Software*, 2023(8): 3821-3835 (JOS, CCF-A)

[28] **Haodi Zhang**, Zhichao Zeng, Keting Lu, Kaishun Wu, Shiqi Zhang. Efficient Dialog Policy Learning by Reasoning with Contextual Knowledge. *Proceedings of the Thirty-Sixth AAAI Conference on Artificial Intelligence*, 2022: 11667-11675 (AAAI 2022, CCF-A)

[29] Chen Zhang#, **Haodi Zhang**#*, Weiteng Xie, Nan Liu, Qifan Li, Kaishun Wu, Di Jiang, Peiguang Lin and Lei Chen. Cleaning Uncertain Data with Crowdsourcing - a General Model with Diverse Accuracy Rates. *IEEE Transactions on Knowledge and Data Engineering* 34(8): 3629-3642, 2022 (TKDE, CCF-A)

[30] **Haodi Zhang**, Chenyu Xu, Jiahong Li, Peirou Liang, Xiangyu Zeng, Hao Ren, Weibin Cheng, and Kaishun Wu. Explainable Pulmonary Disease Diagnosis with Prompt-Based Knowledge Extraction. *Proceedings of the IEEE International Conference on Bioinformatics and Biomedicine*, 2022: 1816-1819 (BIBM 2022, CCF-B)

[31] **Haodi Zhang**, Chenyu Xu, Peirou Liang, Ke Duan, Hao Ren, Weibin Cheng, and Kaishun Wu. MMLN: Leveraging Domain Knowledge for Multimodal Diagnosis. *Proceedings of the Eighteenth International Symposium on Bioinformatics Research and Applications*, 2022: 192-203 (ISBRA 2022)

[32] Sheng Luo, **Haodi Zhang**, Qifan Li and Kaishun Wu. Knowledge-Assisted DRL for Energy Harvesting Based Multi-Access Wireless Communications. *Proceedings of IEEE International Conferences on High Performance Computing and Communications*, 2022: 869-876 (HPCC 2022)

[33] **Haodi Zhang**, Zhao Chen, Jinyin Nie, Di Jiang, Lixin Fan and Kaishun Wu. Knowledge Enhanced Learning for KG Embedding. *Proceedings of the Twenty-Eighth IEEE International Conference on Parallel and Distributed Systems*, 2022: 843-850 (ICPADS 2022)

[34] **Haodi Zhang**, Wenxi Huang, Chenyu Xu, Zhengbang Yang, Hongxin Zhou, Fengtian Qi, Kaishun Wu and Chen Zhang. Improving Confidence of Uncertain Knowledge Graphs by Crowdsourcing with Limited Budget. *Proceedings of the Twenty-Eighth IEEE International Conference on Parallel and Distributed Systems*, 2022: 794-801 (ICPADS 2022)

[35] Zhidan Liu, Junhong Zheng, Zengyang Gong, **Haodi Zhang** and Kaishun Wu. Cleaning Uncertain Data with Crowdsourcing - a General Model with Diverse Accuracy Rates. *Proceedings of 26th International Conference of DASFAA*, 2021:491-508. (CCF-B)

[36] Shan Wang*, Zhao Chen, **Haodi Zhang***, Macau's Vocabulary Growth in the Recent Ten Year (In Chinese). *Proceedings of the 20th Chinese National Conference on Computational Linguistics*, 2021:350-360.

[37] Hao Ren, Aslan B. Wong, Wanmin Lian, Weibin Cheng, Ying Zhang, Jianwei He, Qingfeng Liu, Jiasheng Yang, Chen Jason Zhang, Kaishun Wu, **Haodi Zhang***. Interpretable Pneumonia Detection by Combining Deep Learning and Explainable Models with Multisource Data. *IEEE Access* 9:95872-95883, 2021. (JCR Q1)

[38] Zihang Gao, Fangzhen Lin, Yi Zhou, Hao Zhang, Kaishun Wu, **Haodi Zhang***. Embedding High-Level Knowledge into DQNs to Learn Faster and More Safely. *Proceedings of the AAAI Conference on Artificial Intelligence* (AAAI short paper) 2020:13608-13609.

[39] **Haodi Zhang**, Di Zhan, Chen Jason Zhang, Kaishun Wu, Ye Liu, Sheng Luo. Deep Reinforcement Learning-Based Access Control for Buffer-Aided Relaying Systems With Energy Harvesting. *IEEE Access* 8:145006-145017, 2020. (JCR Q1)

[40] Yusen Liu, Fangyuan He, **Haodi Zhang**, Guozheng Rao, Zhiyong Feng and Yi Zhou. How Well Do Machines Perform on IQ tests: a Comparison Study on a Large-Scale Dataset. *Proceedings of International Joint Conference on Artificial Intelligence* , 2019:6110-6116. (IJCAI, CCF-A)

[41] Fangyuan He, Yi Zhou, **Haodi Zhang**, Zhiyong Feng. Dual-enhanced Word Representations Based on Knowledge Base. *International Semantic Web Conference* (ISWC short paper), 2018.

[42] **Haodi Zhang**, Fangzhen Lin. Characterizing causal action theories and their implementations in answer set programming. *Artificial Intelligence* (AIJ) 248:1-8, 2017. (CCF-A, JCR Q1)

[43] **Haodi Zhang**, Yu Wang, Xiangtong Qi, Weiping Xu, Tao Peng, Shucheng Liu. Demo: An intent solver for enabling intent-based SDN. *IEEE INFOCOM* (short paper) 2017:13608-13609.

[44] **Haodi Zhang**, Fangzhen Lin. Mapping Action Language BC to Logic Programs: A Characterization by Postulates. *Proceedings of the AAAI Conference on Artificial Intelligence*, 2016:1116-1123. (AAAI, CCF-A)

[45] **Haodi Zhang**, Fangzhen Lin. Characterizing Causal Action Theories and Their Implementations in Answer Set Programming: Action Languages B, C, and Beyond. *Proceedings of International Joint Conference on Artificial Intelligence*, 2015:3285-3291. (IJCAI, CCF-A)