1 Curriculum Vitae

Dr. Haodi Zhang, Associate Professor
College of Computer Science and Software Engineering
Shenzhen University

Rm 941, Computer Science, Shenzhen University
Shenzhen, China
E-Mail: hdzhang@szu.edu.cn
Homepage: https://hdzhangust.github.io

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
	College of Computer Science and Software Engineering, Shenzhen University
11/2017 - 06/2023	Assistant Professor
	College 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 Honor and award

1.3.1 Research awards

- Winner of Verbal Track, Machine Automated IQ Test Competition (MAIQ) on IJCAI 2020

- Winner of Diagram Track, Machine Automated IQ Test Competition (MAIQ) on IJCAI 2020

- Tencent "Rhino-bird" Open-Funded Young Researcher Award, 2019

- Shenzhen Overseas High-Caliber Personnel (Category C), 2018

- Best New Faculty Award, Computer Science and Software Engineering of Shenzhen University 2019

- Excellency Award, Shenzhen University, 2020

- Second Prize in the National College CS Design Competition, 2022 (Advised students: Peirou Liang, Xiaofeng Tan and Minhan Chen)

- Finalist Mention Award in the 2022 Mathematical Contest in Modeling, 2022 (Advised students: Peirou Liang, Chengwei He and Liangqiu Xiao)

- Second Prize in the Guangdong College CS Design Competition, 2022 (Advised students: Peirou Liang, Chengwei He and Liangqiu Xiao)

- Third Prize of 4th Blossom Cup 5G Application Competition, 2021 (Advised students: Zisen Lin, Ke Duan, Jiahao Lin)

1.3.2 Teaching awards

- 2022 Outstanding Teacher Award of Shenzhen University

- 2022 The Second Prize of Shenzhen University in Guangdong Teaching Innovation Contest

- 2021 Outstanding Undergraduate Course Award, Shenzhen University

- 2021 The second prize of the College of CSSE in the 10th Teaching Competition, Shenzhen University

- 2021 Outstanding Class (Tencent Cloud AI Class), Shenzhen University

- 2020 Annual Excellency Award, Shenzhen University

- 2019 Best Course Award for *Discrete Mathematics*, CSSE, Shenzhen University

- 2019 Best New Teacher Award, CSSE, Shenzhen University

- 2019 The second prize of the College of CSSE in the 9th Teaching Competition, Shenzhen University

1.4 Funded research projects

- PI, Haodi Zhang, Theory and Application of Non-monotonic Reasoning in Characterizing Action Languages (NSFA-61806132), total fund: 250,000 (CNY), NSFC Young Scientists Program, National Natural Science Foundation of China, 2019.01-2021.12.

- PI, Haodi Zhang, Embedding and Integration of Knowledge Representation and Reasoning into Deep Reinforcement Learning (2022A1515010675), total fund: 100,000 (CNY), Guangdong-NSF Program, Natural Science Foundation of Guangdong Province, 2022.01-2024.12.

- PI, Haodi Zhang, Knowledge Representation and Reasoning Oriented to Fintech AI system, total fund: 100,000 (CNY), Swift Fund Fintech Funding, 2022.03-2022.12.

- PI, Haodi Zhang, Theory and Applications of Non-monotonic Reasoning in Action Languages, total fund: 2,700,000 (CNY), Research funding for high-level talents in Shenzhen (Peacock Project), 2019.01-2021.12.

- PI, Haodi Zhang, Logic Based Artificial Intelligence in Game Playing (201902), total fund: 50,000 (CNY), Tencent Open Fund, 2019.01-2020.12.

- PI, Haodi Zhang, Embedding and Integration of Knowledge Representation and Reasoning into Deep Reinforcement Learning (860/000002110326), total fund: 140,000 (CNY), Research Startup Project for Young Teachers of Shenzhen University-Phase II, 2019.01-2022.12.

- PI, Haodi Zhang, Embedding and Integration of Knowledge Representation and Reasoning into Deep Reinforcement Learning (85304/00000165), total fund: 60,000 (CNY), Research Startup Project for Young Teachers of Shenzhen University-Phase I, 2018.01-2019.12.

- Co-I, Kaishun Wu, Liang Wang, Ning Fu, Haodi Zhang, Yongpan Zou, Zhidan Liu, Xuliang Li, Siyuan Ren, Yiming Liu, Community Context Computation based on Multi-dimensional Deep Perceived Information, total fund: 2,550,000 (CNY), Joint Funds of National Natural Science Foundation of China (NSFC), Key Program, 2021.01-2024.12.

- Co-I, Kaishun Wu, Lu Wang, Xueliang Li, Haodi Zhang, Theory and Application of Non-Contact Intelligent Sensing Based on Vibration, total fund: 200,000 (CNY), Department of Education of Guangdong Province Research Foundation - Key Project, 2021.01-2024.12.

1.5 Professional service

- Senior member/member of Program Committee for

  - AAAI conference on Artificial Intelligence (AAAI) 2023, 2022, 2021, 2020, 2019, 2018, 2015
  - International Joint conference on Artificial Intelligence (IJCAI) 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) 2022, 2021
  - The conference on Neural Information Processing Systems (NeurIPS) 2022, 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 for International conference on Edge Computing and IoT (EAI ICECI) 2021

- Invited Reviewer for

  - IEEE Transactions on Knowledge and Data Engineering
  - Artificial Intelligence
  - Machine Learning
  - Data Intelligence
  - AAAI conference on Artificial Intelligence (AAAI) 2023, 2022, 2021, 2020, 2019, 2018, 2015

- International Joint conference on Artificial Intelligence (IJCAI) 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) 2022, 2021
- The conference on Neural Information Processing Systems (NeurIPS) 2022, 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
- Conference of the European Chapter of the Association for Computational Linguistics (EACL) 2023

1.6 Invited talk

- Knowledge Representation and Integration for Avatar, on *the Bay Area Fintech University Forum*, Shenzhen, Feb. 4th, 2023

- Leveraging Human Intelligence in Machine Learning for NLP, on *The 2nd Macau Symposium on Linguistics*, Macau University, Dec. 4th, 2021

- Natural language processing: tasks, models and applications, on *The 2nd Interdisciplinary frontier Forum*, BNU Zhuhai, Nov. 24, 2021

- Leveraging Human Intelligence in Machine Learning for NLP, on *The 1st Macau Symposium on Linguistics*, Macau University, Dec. 4th, 2020

1.7 Teaching experience

	University	Students	Course	Evaluation
2021 Spring	SZU	Undergraduate	Discrete Mathematics	98.1/100 (Top 7.1%)
2020 Fall	SZU	Undergraduate	Discrete Mathematics	93.8/100
2020 Fall	SZU	Undergraduate	Natural Language Processing	85.2/100
2020 Spring	HKUST	Master	Natural Language Processing	-
2020 Spring	SZU	Undergraduate	Compilers	85.7/100
2019 Fall	SZU	Undergraduate	Discrete Mathematics	94.6/100
2019 Spring	SZU	Undergraduate	Compilers	100/100 (Top 0.7%)
2018 Fall	SZU	Undergraduate	Discrete Mathematics	93.6/100 (Top 9.8%)
2018 Spring	SZU	Undergraduate	Programming Languages	82.7/100

2 Publication List

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

2.1 Published journal and conference papers

[1] **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* (**ICDE 2023**), accepted (CCF-A conference)

[2] 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* (**AAAI 2023**), accepted (CCF-A conference)

[3] 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* (**TKDE**), 35(1):1072-1087 (2023). (CCF-A journal)

[4] **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* (**AAAI 2022**), 2022:11667-11675 (CCF-A conference)

[5] 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* (**TKDE**), 34(8): 3629-3642, 2022 (CCF-A journal)

[6] **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* (**BIBM 2022**), accepted (CCF-B conference)

[7] Junyang Chen, Mengzhu Wang, **Haodi Zhang**, Zhiguo Gong, Zhidan Liu, Kaishun Wu, Victor Leung, From Where and Where To Go: Deep User Interest Exploration for Sequential Location Recommendation. *IEEE Transactions on on Computational Social Systems* (**IEEE TCSS**), accepted, 2022

[8] **Haodi Zhang**, Zhenhao Chen, Junyang Chen, Yi Zhou, Defu Lian, Kaishun Wu and Fangzhen Lin. Dynamic Decision Making Framework Based on Explicit Knowledge Reasoning and Deep Reinforcement Learning (In Chinese). *Journal of Software*, accepted, 2022 (CCF-A journal)

[9] **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* (**ISBRA 2022**), accepted (CCF-C conference)

[10] 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* (**IEEE HPCC**), 2022:869-876 (CCF-C conference)

[11] **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* (**ICPADS 2022**), accepted (CCF-C conference)

[12] **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* (**ICPADS 2022**), accepted (CCF-C conference)

[13] Chen Zhang$^{\#}$, **Haodi Zhang**$^{\#*}$, Qifa n 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* (**TKDE**), 2021 Early Access. (CCF-A journal)

[14] Zhidan Liu, Junhong Zheng, Zengyang Gong, **Haodi Zhang** and Kaishun Wu. Exploiting Multi-source Data for Adversarial Driving Style Representation Learning. *Proceedings of 26th International conference of DASFAA* (**DASFAA 2021**), 2021:491-508. (CCF-B conference)

[15] 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* (**CCL 2021**), 2021:350-360.

[16] 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)

[17] 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 2020 short paper) 2020:13608-13609.

[18] **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)

[19] 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* (**IJCAI 2019**), 2019:6110-6116. (CCF-A conference)

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

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

[22] **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.

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

[24] **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* (**IJCAI 2015**), 2015:3285-3291. (CCF-A conference)