

Shimin DI (邸世民)

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EDUCATION

The Hong Kong University of Science and Technology

Doctor of Philosophy in Computer Science and Engineering

Thesis: Automated Scoring Function Design for Knowledge Base Embedding

Hong Kong SAR

Feb 2018 – Jan 2022

Supervised by Prof. Lei CHEN

The Hong Kong University of Science and Technology

Master of Science in Big Data Technology

Hong Kong SAR

Sep 2016 – Jun 2017

Hunan University

Bachelor of Mathematics and Applied Mathematics

Changsha, Hunan

Sep 2012 – Jun 2016

WORK EXPERIENCE

The Hong Kong University of Science and Technology

Post-doctoral Fellow

Hong Kong SAR

Mar 2022 – Present

- Under the supervision of Prof. Xiaofang ZHOU.
- Mainly responsible for applying for research projects, leading project teams, and publishing research papers.
- Finished organizing the proposals for several state key projects, e.g., National Natural Science Foundation of China (NSFC) - State Key Program of Joint Fund and NSFC - Research Grants Council Collaborative Research Scheme.

4Paradigm Inc.

Internship in Automated Machine Learning Group

Beijing

Sep 2019 – Jun 2020

- Collaborated with Dr. Quanming YAO.
- Researched the topic of neural architecture search (NAS), and explored the domain transfer from NAS to knowledge graph embedding.

RESEARCH PROJECTS

National Natural Science Foundation of China - State Key Program of Joint Fund (No. U22B2060)

- Project Name: Multi-modal Data Driven and Knowledge Fusion-based Interpretable Knowledge Graph Reasoning Technology | 多模態數據驅動與知識融合的可解釋性知識圖譜推理技術.
- 2023-Jan to 2026-Dec, 2,540,000 CNY, in progress.
- Participant list: Prof. Lei CHEN, Prof. Jian YIN, Dr. Mengmeng WANG, **Dr. Shimin DI**, Prof. Libin ZHENG, Dr. Wenwen XU, Dr. Zhenhui PENG, Dr. Jing TANG, Dr. He WANG.

Hong Kong Research Grants Council - Research Impact Fund (No. R6020-19)

- Project Name: Domain-specific Knowledge Base Construction | 領域知識庫構建.
- 2020-Jun to 2024-May, 5,600,000 HKD, in progress, participant.

Hong Kong Research Grants Council - Collaborative Research Fund (No. C6030-18G)

- Project Name: A Human-Powered Machine Learning System | 一個人機交互的機器學習系統.
- 2019-Jun to 2022-Jun, 3,716,381 HKD, finished, participant.

Hong Kong Research Grants Council - Competitive Earmarked Research Grant (No. 16202218)

- Project Name: Effective Techniques for Comprehensive Knowledge Bases Enhancement and Updating | 綜合知識庫管理和更新技術.
- 2019-Jan to 2021-Dec, 875,000 HKD, finished, participant.

ACADEMIC SERVICE

Program Committee Member of Conferences: NeurISP 2023/2022, KDD 2023/2022, AAAI 2022/2021, ICDE 2023, IJCAI 2020, ACML 2021

Reviewer of Journals: Transactions of Knowledge and Data Engineering, Transactions of Information System, Machine Learning, Neural Network

In past 5 years, Dr. DI has published 12 papers in the filed of computer science. As the first author or corresponding author, his 11 papers have been published on international conferences that are ranked as class-A by the China Computer Federation (i.e., CCF-A class), including 3 SIKGDD, 2WWW, 2 NeurIPS, 2 ICDE, 1 SIGMOD, and 1 ICCV.

1. **Message Function Search for Knowledge Graph Embedding**
 - Proceedings of the ACM Web Conference (WWW), 2023.
 - **Shimin DI**, Lei CHEN.
2. **Searching to Sparsify Tensor Decomposition for N-ary Relational Data**
 - Proceedings of the ACM Web Conference (WWW), 2021.
 - **Shimin DI**, Quanming YAO*, Lei CHEN.
3. **Efficient Relation-aware Scoring Function Search for Knowledge Graph Embedding**
 - IEEE 37th International Conference on Data Engineering (ICDE), 2021.
 - **Shimin DI**, Yongqi ZHANG, Quanming YAO*, Lei CHEN.
4. **Relation Extraction via Domain-aware Transfer Learning**
 - Proceedings of the 25th ACM SIGKDD International Conference on Knowledge Discovery & Data Minin (SIGKDD), 2019.
 - **Shimin DI**, Yanyan SHEN*, Lei CHEN.
5. **Transfer Learning via Feature Isomorphism Discovery**
 - Proceedings of the 24th ACM SIGKDD International Conference on Knowledge Discovery & Data Minin (SIGKDD), 2018.
 - **Shimin DI**, Jingshu PENG, Yanyan SHEN*, Lei CHEN.
6. **Noise2Info: Noisy Image to Information of Noise for Self-Supervised Image Denoising**
 - IEEE/CVF International Conference on Computer Vision (ICCV), 2023. (To appear)
 - Jiachuan WANG, **Shimin DI***, Lei CHEN, Charles Wang Wai Ng.
7. **A Message Passing Neural Network Space for Better Capturing Data-dependent Receptive Fields**
 - Proceedings of the 29th ACM SIGKDD International Conference on Knowledge Discovery & Data Minin (SIGKDD), 2023.
 - Zhili WANG, **Shimin DI***, Lei CHEN
8. **Incremental Tabular Learning on Heterogeneous Feature Space**
 - Proceedings of the ACM on Management of Data (SIGMOD), 2023.
 - Hanmo LIU, **Shimin DI***, Lei CHEN.
9. **Revisiting Injective Attacks on Recommender Systems**
 - Advances in Neural Information Processing Systems (NeurIPS), 2022.
 - Haoyang LI, **Shimin DI***, Lei CHEN.
10. **Black-box Adversarial Attack and Defense on Graph Neural Networks**
 - IEEE 38th International Conference on Data Engineering (ICDE), 2022.
 - Haoyang LI, **Shimin DI***, Zijian LI, Lei CHEN, Jiannong CAO.
11. **AutoGEL: An Automated Graph Neural Network with Explicit Link Information**
 - Advances in Neural Information Processing Systems (NeurIPS), 2021.
 - Zhili WANG, **Shimin DI***, Lei CHEN.
12. **FluxEV: A Fast and Effective Unsupervised Framework for Time-Series Anomaly Detection**
 - Proceedings of the 14th ACM International Conference on Web Search and Data Mining (WSDM), 2021.
 - Jia LI, **Shimin DI**, Yanyan SHEN*, Lei CHEN.