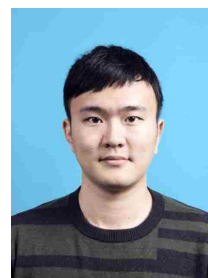


# Kai Wang

**Gender:** Male    **Date of Birth:** 5 May 1993

**Email:** kai\_wang@ntu.edu.sg



## Summary

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Kai Wang obtained his Bachelor, Master, Doctor degrees in Software Engineering from Dalian University of Technology, Dalian, P.R. China in 2015, 2019 and 2022 respectively. Kai submitted his Cotutelle Ph.D. thesis at the School of Computing, Macquarie University supervised by Prof. Dr. Michael Sheng in 2022. Kai is currently a postdoctoral research fellow at Nanyang Technological University, Singapore. Kai's research interests include, but are not limited to, Knowledge Graph Reasoning, Graph Neural Networks, and Large Language Models. He has published a number of papers at the top conferences and journals of these research areas, i.e., VLDB, ACL, KDD, IJCAI, EMNLP, and the Web Conference.

## Research Skills

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- **Research Interests:** Knowledge Graph Representation Learning, Natural Language Processing, Large-Scale Graph Data Computing, Dynamic Knowledge Graph Embeddings
- **English Proficiency:** IELTS: 7.0 (Listening 7.0, Reading 8.5, Writing 6.0, Speaking 6.0)
- **Programming & Tools:** Python, Pytorch, Tensorflow, Linux, Latex
- **Deep Learning Models:** CNN, LSTM, Transformers, BERT, GNN
- **Natural Language Processing:** Information Extraction, Sentiment Classification
- **Computer Vision:** Multi-label Image Classification for Aerial Image
- **Machine Learning:** Knowledge Distillation, Probability Calibration, Contrastive Learning
- **AI Applications:** Question Answering, Recommendation System

## Work Experience

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### Nanyang Technological University, Singapore

- **Postdoctoral Research Fellow** **August 2022 - Now**  
School of Computer Science and Engineering, supervised by Prof. Dr. Siquang Luo  
Nanyang Technological University is one of the most prestigious universities in the world, It is ranked 19th globally according to the 2023 QS World University Rankings and has also been ranked 1st among young universities by the QS World University Rankings since 2015.

## Education

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### Macquarie University, Sydney, Australia

- **Cotutelle Ph.D. Program with DUT** **October 2020 - August 2022**  
Ph.D. in Computer Science, supervised by Prof. Dr. Michael Sheng  
HDR Research Rising Star Award 2022  
Macquarie University is an innovative research-focused university, and one of Australia's best universities, renowned for excellence in interdisciplinary research and teaching. It is consistently ranked in the top 1% in the world.

## Dalian University of Technology, Dalian, P.R. China

- **Successive Master-Doctor Program** **September 2015 - June 2022**

Ph.D. in Software Engineering, supervised by Prof. Dr. Yu Liu

Dalian Outstanding Graduate Award

- **Bachelor in Software Engineering** **September 2011 - June 2015**

Outstanding Graduate Award of DUT

Dalian University of Technology is a leading university in China, consistently ranked among top 20 universities in China. Software Engineering of DUT is ranked top 5 in the 2021 Ranking of the Best Subjects in China.

## Representative Publications

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- **Kai Wang**, Yuwei Xu, and, Siqiang Luo. TIGER: Training Inductive Graph Neural Network for Large-scale Knowledge Graph Reasoning. **PVLDB 2024**.
- **Kai Wang**, Yuwei Xu, Zhiyong Wu and, Siqiang Luo. LLM as Prompter: Low-resource Inductive Reasoning on Arbitrary Knowledge Graphs. *Findings of the Association for Computational Linguistics: ACL 2024*.
- Zulun Zhu, **Kai Wang**, Siqiang Luo, Haoyu Liu, and, Jintang Li. Topology-aware Graph Contrastive Learning on Dynamic Graphs. **KDD 2024**.
- **Kai Wang**, Yu Liu, and Quan Z. Sheng. Swift and Sure: Hardness-aware Contrastive Learning for Low-dimensional Knowledge Graph Embeddings. *The 31st Web Conference 2022 (TheWebConf 2022)*, 838-849. Lyon, France, 25-29 April 2022 (the top conference in the Web research area, acceptance rate: **17.7%**).
- **Kai Wang**, Yu Liu, Dan Lin, and Quan Z. Sheng. Hyperbolic Geometry is Not Necessary: Lightweight Eulidean-based Models for Low-Dimensional Knowledge Graph Embeddings. *Findings of the Association for Computational Linguistics: EMNLP 2021*, 464-474. (one of the top conferences in NLP)
- **Kai Wang**, Yu Liu, and Quan Z. Sheng. Neighborhood Intervention Consistency: Measuring Confidence for Knowledge Graph Link Prediction. *The 30th International Conference on Artificial Intelligence (IJCAI 2021)*. August 21-26, 2021, Montreal, Canada (the top conference in Artificial Intelligence, acceptance rate: **13.9%**).
- **Kai Wang**, Yu Liu, Qian Ma, and Quan Z. Sheng. MulDE: Multi-Teacher Knowledge Distillation for Low-Dimensional Knowledge Graph Embeddings. *The 30th Web Conference 2021 (TheWebConf 2021)*, 1716-1726. (the top conference in the Web research area, acceptance rate: **20.6%**).
- **Kai Wang**, Yu Liu, Xiujuan Xu, and Quan Z. Sheng. Enhancing knowledge graph embedding by composite neighbors for link prediction. *Computing*, Springer, 2020, 102(12): 2587-2606 (Impact Factor: 2.220).
- **Kai Wang**, Siqiang Luo, and Dan Lin. (2023). River of No Return: Graph Percolation Embeddings for Efficient Knowledge Graph Reasoning. arXiv preprint arXiv:2305.09974.
- **Kai Wang**, Siqiang Luo, and Dan Lin. GraPE: Graph Percolation Embeddings for Efficient Knowledge Graph Reasoning. (TKDE Under Review).
- Subhash Sagar, Adnan Mahmood, **Kai Wang**, Quan Z. Sheng, Jitander Kumar Pabani,

and Wei Emma Zhang. (2023). Trust-SIoT: Towards Trustworthy Object Classification in the Social Internet of Things. *IEEE Transactions on Network and Service Management*. (Impact Factor: 4.758).

- Jun Ni, Yu Liu, **Kai Wang**, Zhehuan Zhao and Quan. Z. Sheng, Distantly Supervised Relation Extraction through a Trade-off Mechanism, *2019 International Joint Conference on Neural Networks (IJCNN)*, 2019, 1-8.
- Ruixin Ma, **Kai Wang**, Tie Qiu, Arun Kumar Sangaiah, Dan Lin, Hannan BinLiaqat. Feature-based compositing memory networks for aspect-based sentiment classification in social internet of things. *Future Generation Computer Systems*, 2019, 92: 879-888 (Impact Factor: 7.187).