Xiaxia Wang (王夏霞)

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About Me

Currently, I am a Ph.D. student in the Department of Computer Science of University of Oxford. I am a member of the Data and Knowledge Group, advised by Prof. Bernardo Cuenca Grau, Prof. Ian Horrocks, and Dr. David Tena Cucala. Before that, I achieved my research-based M.S. degree of Computer Technology from Nanjing University in 2022. I worked in Websoft Research Group, supervised by Prof. Gong Cheng and Prof. Yuzhong Qu. I obtained my B.S. degree of Information and Computing Science from Nanjing University of Aeronautics and Astronautics in 2019.

Education

University of Oxford *Jan. 2023 – approx. 2026*
Ph.D. student of Computer Science
Advisors: Prof. Bernardo Cuenca Grau, Prof. Ian Horrocks, Dr. David Tena Cucala

Nanjing University *Sept. 2019 – June 2022*
M.S. degree of Computer Technology
Supervisors: Prof. Gong Cheng, Prof. Yuzhong Qu

Nanjing University of Aeronautics and Astronautics *Sept. 2015 – June 2019*
B.S. degree of Information and Computing Science
GPA: 4.5/5.0, Ranking: 1/70

Research Interests

My research interests include **neuro-symbolic reasoning**, **knowledge graphs**, and **semantic search** technologies applied in intelligent systems.

Currently, I focus on interpreting graph neural network models for knowledge graph reasoning using symbolic rules, aiming to achieve both **effective** and **explainable** systems. I have also worked on semantic search techniques applied in dataset search systems, including structured data summarization, query analysis, and information retrieval.

Publications (Reverse Chronological)

[DBLP Page]   [Google Scholar]   [Semantic Scholar]

1. Xiang Huang, Jiayu Shen, Shanshan Huang, Sitao Cheng, **Xiaxia Wang**, Yuzhong Qu
   TARGA: Targeted Synthetic Data Generation for Practical Reasoning over Structured Data.
   The 63rd Annual Meeting of the Association for Computational Linguistics (ACL 2025).

2. **Xiaxia Wang**, David Tena Cucala, Bernardo Cuenca Grau, Ian Horrocks
   Faithful Rule Extraction for Differentiable Rule Learning Models.
   The 12th International Conference on Learning Representations (ICLR 2024).

3. **Xiaxia Wang**, Gong Cheng
   A Survey on Extractive Knowledge Graph Summarization: Applications, Approaches, Evaluation, and Future Directions.
   The 33rd International Joint Conference on Artificial Intelligence (IJCAI 2024).

4. Qiaosheng Chen, Weiqing Luo, Zixian Huang, Tengteng Lin, **Xiaxia Wang**, Ahmet Soylu, Basil Ell, Baifan Zhou, Evgeny Kharlamov, Gong Cheng
   [ACORDAR 2.0: A Test Collection for Ad Hoc Dataset Retrieval with Densely Pooled Datasets and Question-Style Queries](#).
   The 47th International ACM SIGIR Conference (SIGIR 2024).

5. Zixian Huang, Xinwei Huang, Ao Wu, **Xiaxia Wang**, Gong Cheng
   [Transforming decoder-only models into encoder-only models with improved understanding capabilities](#).
   Knowledge-Based Systems 309 (KBS).

6. **Xiaxia Wang**, Gong Cheng, Jeff Z. Pan, Evgeny Kharlamov, Yuzhong Qu
   [BANDAR: Benchmarking Snippet Generation Algorithms for (RDF) Dataset Search](#).
   IEEE Transactions on Knowledge and Data Engineering 35(2) (TKDE 2023).

7. Tengteng Lin, Qiaosheng Chen, Gong Cheng, Ahmet Soylu, Basil Ell, Ruoqi Zhao, Qing Shi, **Xiaxia Wang**, Yu Gu, Evgeny Kharlamov
   [ACORDAR: A Test Collection for Ad Hoc Content-Based (RDF) Dataset Retrieval](#).
   The 45th International ACM SIGIR Conference (SIGIR 2022).

8. **Xiaxia Wang**, Tengteng Lin, Weiqing Luo, Gong Cheng, Yuzhong Qu
   [CKGSE: A Prototype Search Engine for Chinese Knowledge Graphs](#).
   Data Intelligence 4(1) (DI 2022).

9. **Xiaxia Wang**, Gong Cheng, Tengteng Lin, Jing Xu, Jeff Z. Pan, Evgeny Kharlamov, Yuzhong Qu
   [PCSG: Pattern-Coverage Snippet Generation for RDF Datasets](#).
   The 20th International Semantic Web Conference (ISWC 2021).

10. **Xiaxia Wang**, Tengteng Lin, Weiqing Luo, Gong Cheng, Yuzhong Qu
    [Content-Based Open Knowledge Graph Search: A Preliminary Study with OpenKG.CN](#).
    The 2021 China Conference on Knowledge Graph and Semantic Computing (CCKS 2021).

11. **Xiaxia Wang**, Jinchi Chen, Shuxin Li, Gong Cheng, Jeff Z. Pan, Evgeny Kharlamov, Yuzhong Qu
    [A Framework for Evaluating Snippet Generation for Dataset Search](#).
    The 18th International Semantic Web Conference (ISWC 2019).

12. **Xiaxia Wang**, Gong Cheng, Evgeny Kharlamov
    [Towards Multi-Facet Snippets for Dataset Search](#).
    The 6th International Workshop on Dataset PROFILing and Search (PROFILES 2019).

13. Jinchi Chen, **Xiaxia Wang**, Gong Cheng, Evgeny Kharlamov, Yuzhong Qu
    [Towards More Usable Dataset Search: From Query Characterization to Snippet Generation](#).
    The 28th ACM International Conference on Information and Knowledge Management (CIKM 2019).

Invited Talks

- [Faithful Rule Learning and Extraction with Applications](#).
  invited by Dr. Nico Potyka   *Cardiff University, May 2025*

Awards and Honors

- IJCAI-AIJ Travel Grant   *2024*
- Outstanding Master Thesis of Jiangsu Computer Society   *2023*
- Outstanding Master Thesis of Nanjing University   *2023*
- Bosch Scholarship on 'Collaborative AI in Production' (fully funded for Ph.D. program)   *2022*
- National Scholarship   *2021*
- ISWC Student Grant   *2021*
- First-Class Academic Scholarship of Nanjing University   *2020 – 2022*

- Outstanding Graduate Student of Nanjing University *2019, 2021*
- Jiangsu Financial Leasing Scholarship *2019*
- Huawei Scholarship *2018itemize*
- First-Class Outstanding Student Scholarship *2016 – 2019*

Teaching Experience

- Databases *Hilary and Trinity Terms 2025*
  – Giving weekly classes and marking problem sheets
  – Classes rated by students: 4.47/5.00, with departmental teaching award nomination
- Database Systems Implementation *Hilary Term 2024*
  – Giving weekly classes and marking problem sheets
  – Classes rated by students: 4.27/5.00
- Graph Theory and Algorithms *Spring 2022*
- Graph Theory *Spring 2021, Spring 2020*
  – Marking problem sheets, answering questions, and invigilation
  – For about 70 undergraduate and graduate students

Academic Services

Program Committee or Reviewer

- ACL Rolling Review (ARR) *2025*
- Annual Conference on Neural Information Processing Systems (NeurIPS) *2025*
- International ACM SIGIR Conference (SIGIR) *2025*
- International Conference on Information and Knowledge Management (CIKM) *2020 – 2025*
- International Conference on Knowledge Representation and Reasoning (KR) *2024*
- International Conference on Learning Representations (ICLR) *2025*
- International Conference on Machine Learning (ICML) *2025*
- International Joint Conference on Artificial Intelligence (IJCAI) *2025*
- International Semantic Web Conference (ISWC) *2022 – 2023, 2025*
- IEEE International Conference on Big Data (BigData) *2025*

Review Committee

- Journal of Web Semantics (JoWS)
- Knowledge and Information Systems (KAIS)
- Transactions on Knowledge Discovery from Data (TKDD)
- Transactions on Graph Data and Knowledge (TGDK)

Others

- Conference VP of Oxford Women in Computer Science Society (OxWoCS)
  – Co-chair of the 10th OxBridge Conference (held in Oxford) *2024*
  – Co-chair of the 11th OxBridge Conference (held in Cambridge) *2025*
- Assistant Workflow Chair of IJCAI *2023*

Language Skills

- Chinese: Native (Mandarin; Wu language, 吴语)
- English: Proficient