Xiaxia Wang (王夏霞)

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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 explored semantic search techniques in the context of dataset search systems, involving structured data summarization, query analysis, and information retrieval.

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

Selected Publications (Reverse Chronological)

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

1. **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).

2. **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).

3. **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).

4. **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).

5. **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).

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 *2018*
- 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)