

# Jiaoyan Chen, Mr.

phone: +44 7513502127

Email: [jiaoyan.chen@manchester.ac.uk](mailto:jiaoyan.chen@manchester.ac.uk)

Home page: <https://chenjiaoyan.github.io/>

## Education

*09/2011 – 09/2016:* Ph.D., Computer Science and Technology, Zhejiang University, China. Supervisors: Prof. Huajun Chen & Prof. Zhaohui Wu.

*07/2016 – 09/2016 & 11/2014 – 06/2015:* Visiting Ph.D. Student, Department of Informatics, Zurich University, Switzerland. Supervisor: Dr. Daning Hu.

*08/2007 – 06/2011:* Bachelor, Computer Science and Technology, Zhejiang University, China.

## Positions

*07/2025 – now:* Senior Lecturer (Associate Professor) in Department of Computer Science, The University of Manchester, Manchester, UK

*11/2022 – 06/2025:* Lecturer (Assistant Professor) in Department of Computer Science, The University of Manchester, Manchester, UK.

*12/2022 – 05/2025:* Senior Researcher (part-time, 20%) in Department of Computer Science, University of Oxford, Oxford, UK. Report to Prof. Ian Horrocks.

*11/2017 – 10/2022:* Senior Researcher in Department of Computer Science, University of Oxford, Oxford, UK. Report to Prof. Ian Horrocks.

*03/2020 – 02/2021:* Technical consultant of Jarvis Lab of Tencent Technology, Shenzhen, China.

*12/2019 – 02/2020:* Technical consultant of Oxford Semantic Technology, Oxford, UK.

*10/2016 – 09/2017:* Postdoctoral Researcher in GIScience Research Group in Heidelberg University, Heidelberg, Germany. Report to Prof. Alexander Zipf.

## Research Interests

- **Knowledge Representation:** construction and curation of knowledge graphs and ontologies, semantic technologies.
- **Machine Learning:** knowledge representation learning; neural-symbolic reasoning.
- **Language Model and Data Intensive Systems:** augmenting large language models (LLMs) with knowledge graphs, ontologies and data lakes; retrieval augmented generation (RAG).

## Awarded Research Grants

- The Manchester-Melbourne-Toronto (MMT) Research Fund, "AI-Driven Solutions for Child Protection: Utilizing LLMs and Knowledge Graph" (collaborative research initiatives), 9K GBP + 14K CAD, 10/2024 - 03/2026, PI with Jia Xue from University of Toronto.
- Turing Innovation Catalyst Manchester (TICM) funded Collaborative R&D Project "Multi-modal Semantic Search with Ontologies and Modern AI Techniques", 30.6K GBP, 07/2024 - 01/2025, PI.
- EPSRC New Investigator Award "OntoEm: Semantic Embeddings for Ontologies" (EP/Y017706/1), 427.9K GBP, 05/2024 – 04/2027, PI.
- EPSRC project "ConCur: Knowledge Graph Construction and Curation" (EP/V050869/1), 1.1M GBP, 12/2021 - 11/2024, Research Co-Investigator.
- Turing-Manchester Feasibility Project "Knowledge Graph for Explainability, Guidance and Human-in-the-loop in Machine Learning", 19K GBP, 11/2022 - 04/2023, PI.

## Industrial Projects Participated

- One e-commerce taxonomy curation projection funded by eBay in University of Oxford, from 2021 to 2024.
- Two personal knowledge graph projects funded by Samsung Research UK in University of Oxford, from 2020 to 2023.
- The AI for Data Analytics (AIDA) project funded by the Alan Turing Institute in University of Oxford, from 2017 to 2020.

## Invited Talks

- “Table and Knowledge Graph Augmented Question Answering with Large Language Models”, Guest Speaker at the School Research Seminar Series 2025-2026, Ulster University. 12/2025.
- “Embedding Complex Knowledge: From Geometric to Language Models”. Invited report in Shanxi University, Shanxi, China. 11/2025
- “Embedding Complex Knowledge: From Geometric to Language Models”. Invited talk at Yong Researchers Forum, The 14<sup>th</sup> International Joint Conference on Knowledge Graphs (IJCKG 2025), Heraklion, Greece. 10/2025.
- “Ontology Embedding and Construction in the Large Language Model Era”. Southeast University, Nanjing. 01/2025.
- “Data Intensive Question Answering with Large Language Models”, in the Workshop on Large Language Models for Knowledge Graph in Stuttgart University. 10/2024.
- “Neural-symbolic Knowledge Representation with Ontology and Knowledge Graph Embeddings”, in AMS Network on Neuro-symbolic AI in Medicine and DSI Health Seminar Series Workshop Data in Zurich University. 07/2024
- “Knowledge Engineering meets (Large) Language Models”, in Amazon Research (Amazon Scholar Report). 07/2024.
- “Neural-symbolic Knowledge Representation with Ontology and Knowledge Graph Embeddings”, in King Abdullah University of Science and Technology. 04/2024.
- “Ontology Construction and Curation with (Large) Language Model”, in 7<sup>th</sup> meetup of the Knowledge Graph Group of The Alan Turing Institute. 18/09/2023.
- "Knowledge Graph Construction, Curation and Its Machine Learning Applications", in Shanghai Jiaotong University. Shanghai, China. 05/2023.
- "Knowledge-driven Zero-shot Learning" in Conference on Data Intelligence and Knowledge Service organized by the Data Intelligence journal in Naging, China. 07/2021.
- “Knowledge Graphs: Theory & Applications”, in eBay, California, USA. 09/2021.
- “Knowledge Graph Curation with Deep Learning and Semantic Reasoning”, in Tencent Technology, Shenzhen, China, 10/2019.
- "Knowledge Graph Curation with Deep Learning", in Southeast University, Nanjing, China, 08/2019.

## Tutorials

- “Integrating Knowledge Graphs and Large Language Models for Advancing Scientific Research” in 45<sup>th</sup> International Conference on Distributed Computing Systems (ICDCS) 2025, Glasgow, UK.
- “Knowledge-aware Zero-shot Learning (K-ZSL): Concepts, Methods and Resources”, in International Semantic Web Conference (ISWC) 2022 and International Joint Conference on Artificial Intelligence (IJCAI) 2023.

- “Integrating Knowledge Graphs and Large Language Models for Advancing Scientific Research”, in Learning on Graph Conference (LoG) 2024 and IEEE International Conference on Distributed Computing Systems (ICDCS) 2025.

## Conference and Journal Publications

By 13/01/2026, my publications have attracted 5700 citations with a H-index of 43 according to Google Scholar. See selected publications in the end of the CV. Also see Google Scholar for a complete publication list: <https://scholar.google.com/citations?user=5Cy4z8wAAAAJ&hl=en>.

## Current Supervision of Research Students / Associates

- Hui Yang, Postdoctoral in Department of Computer Science, The University of Manchester, 06/2024 – now.
- Jonathon Dilworth, Research Assistant in Department of Computer Science, The University of Manchester, 07/2025 – now.
- Beiyu Xu, PhD in Department of Computer Science, The University of Manchester, 01/2026 – now. Main supervisor (80%)
- Hira Beril, PhD in Department of Computer Science, The University of Manchester, 04/2025 – now. Co-supervisor (50%).
- Hanhua Hong, PhD in Department of Computer Science, The University of Manchester, 09/2024 – now. Main supervisor (34%).
- Ian Hyland, part-time PhD in Department of Computer Science, The University of Manchester, 04/2024 – now. Co-supervisor (50%).
- Yiping Song, PhD in Department of Computer Science, The University of Manchester, 04/2024 – now. Co-supervisor (50%).
- Zhenyu Wu, PhD in Department of Computer Science, The University of Manchester, 09/2022 – now. Co-supervisor (50%).
- Balazs Mosolygo, PhD in Department of Information Science and Media Studies, University of Bergen, 11/2023 – now. External co-supervisor.

## Past Supervision of Research Students / Associates

- Tianzhe Zhao, visiting PhD student in Department of Computer Science, The University of Manchester from Xi'an Jiaotong University, 2024 - 2025. External co-supervisor.
- Melis Kupeli, Research Assistant in Alliance Manchester Business School, The University of Manchester, 2022 – 2023. Line Manager.
- Hang Dong, Postdoctoral, Department of Computer Science, University of Oxford, 2022 – 2024. Line Manager.
- Yuan He, PhD in Department of Computer Science, University of Oxford, 2020 - 2024. Co-supervisor.
- Yuxia Geng, PhD in College of Computer Science and Technology, Zhejiang University, 2018 – 2023. External co-supervisor.
- Erik Bryhn Myklebust, PhD in Norwegian Institute for Water Research (NIVA) & University of OSLO, 2019 – 2022. External co-supervisor.
- Mathias Jackermeier, MSc in Department of Computer Science, University of Oxford, 2022. Co-supervisor.
- Yan Zhou, MSc in GIScience, University of Heidelberg, 2016 – 2017. Co-supervisor.

## Academic Services

- Member of the EPSRC Peer Review College. 2023 – now.
- Senior Editor of The Knowledge Engineering Review. 2025 – now.

- Senior Editorial Board of Transactions of Graph Data and Knowledge. 2023 – now.
- Editorial Board of Data Intelligence. 2021 – now.
- Editorial Board of Journal of Web Semantics. 2020 – 2023.
- Reviewer for other journals: Semantic Web, Journal of Web Semantics, ACM Transactions on the Web, Knowledge-based Systems, World Wide Web, Neurosymbolic Artificial Intelligence, Journal of Biomedical Semantics, Big Data Research, Journal of Automated Reasoning, Journal of Artificial Intelligence Research, IEEE Transactions on Neural Networks and Learning Systems, etc.
- Conference Senior PC / Area Chair: IJCAI (2020, 2021), CIKM'23, ESWC'23, ACL ARR 2025 May & July
- Conference PC: ISWC (2017, 2018, 2019, 2020, 2022, 2023, 2024, 2025), WWW (2017, 2019, 2020, 2022, 2024, 2025, 2026), AAAI (2017, 2020, 2021, 2022, 2023, 2024), IJCAI (2019, 2022, 2023), ECAI'20, ACL (2020, 2022), ECML-PKDD (2020, 2021, 2022), CIKM'21, CCKS (2021, 2023), ESWC (2022, 2026), EMNLP (2022, 2023), OM (2023, 2024, 2025), NeSy (2023, 2024, 2025), VLDB TaDA (2023, 2024), ICDE'24, WWW PromptEng'24, IJCAR'24, IJCAI LKM'24, VLDB LLM+KG'24, COLM'24, NeurIPS'25, IJCKG'25, ACL ARR 2025 Oct, ICLR'26
- Semantic Web Challenge Chair of ISWC'21,
- Poster, Demo & Lightning Talk Chair of ISWC'26
- Event Co-organiser
  - SemTab: Semantic Web Challenge on Tabular Data to Knowledge Graph Matching. Yearly challenge in ISWC (from 2019 to 2023).
  - Ontology Alignment Evaluation Initiative (OAEI), for the track of “Bio-ML: A ML-friendly Biomedical track for Equivalence and Subsumption Matching”. Yearly event in ISWC (from 2022 to 2024).
- Research proposal review: DFG-grant (Germany Research Council), the ESPRIT programme of the Austrian Science Fund, the Postdoc-NeT-AI programme of German Academic Exchange Service, Fellowship of Royal Academy of Engineering, Talent Programme of the Dutch Research Council (NWO), ERC Consolidator Grant

## Reserach Student Examination

- Bohao Yang. PhD Thesis. Department of Computer Science, The University of Manchester. 11/2025.
- Maham Iftikhar. MSc Thesis. Department of Informatics, University of Oslo. 06/2025.
- Matthew Morris. Confirmation of D.Phil. status. Department of Computer Science, University of Oxford. 05/2025.
- Tatiana Botskina. Confirmation of D.Phil. status. Department of Computer Science, University of Oxford. 01/2025.
- Simon Chi Lok. Research MSc Thesis. School of Informatics, The University of Edinburgh. 10/2024.
- Yifan Xu. PhD Thesis. Department of Computer Science, The University of Manchester. 08/2024
- Fangrong Wang. PhD Thesis. School of Informatics, The University of Edinburgh. 01/2024.
- Nanadi Mardah. PhD Thesis. Department of Computer Science, The University of Manchester. 10/2023.
- Peyman Rasouli. PhD Thesis. Department of Informatics, University of Oslo. 04/2023.
- Shuwen Liu. Confirmation of D.Phil. status. Department of Computer Science, University of Oxford. 04/2022.
- Tommaso Salvatori. Confirmation of D.Phil. status. Department of Computer Science, University of Oxford. 06/2021.

- Hannah Frost. First year exam. Department of Computer Science, The University of Manchester. 11/2022.
- Shuwen Liu. Transfer to D.Phil. status. Department of Computer Science, University of Oxford. 03/2022.
- Tommaso Salvatori. Transfer to D.Phil. status. Department of Computer Science, University of Oxford. 11/2019.
- Ralph Addoud. Transfer to D.Phil. status. Department of Computer Science, University of Oxford. 11/2019.

## Teaching

- Data Engineering Technologies (COMP64502). Department of Computer Science, The University of Manchester. Unit Lead. 2025 – 2026.
- Advanced Topics in Knowledge Representation and Reasoning (COMP64602). Department of Computer Science, The University of Manchester. 2025 – 2026.
- Data Engineering (COMP60711). Department of Computer Science, The University of Manchester. Lecturer. 2024 – 2025.
- Querying Data on the Web (COMP62421). Department of Computer Science, The University of Manchester. Lecturer. 2023 – 2024 & 2024 - 2025
- First-year Undergraduate Tutorial. Department of Computer Science, The University of Manchester. Lecturer. 2022 – 2023, 2023 – 2024, 2024 – 2025.
- Second-year Undergraduate Tutorial. Department of Computer Science, The University of Manchester. Lecturer. 2022 – 2023, 2023 – 2024, 2024 – 2025
- Third-year Undergraduate Project Supervision. Department of Computer Science, The University of Manchester. Lecturer. 2022 – 2023 (2 students), 2023 – 2024 (5 students), 2024 – 2025 (8 students).
- MSc Project Supervision. Department of Computer Science, The University of Manchester. 2022 – 2023 (1 student), 2023 – 2024 (4 students), 2024 – 2025 (2 students).
- Neural-symbolic Knowledge Representation and Reasoning. 2nd European Summer School on Artificial Intelligence (ESSAI 2024). Lecturer (60% of 5\*1.5 hours). July 2024.
- Embedding for Involving Knowledge Graphs: From Inductive Inference to Incremental Learning. Guest Lecture (1 hour) at King Abdullah University of Science and Technology. April 2024.
- Artificial Intelligence. Department of Computer Science, University of Oxford. Group Class Teaching (1\*5 hours). Hilary Term, 2022.
- Knowledge Graph (English). Southeast University. Guest Lecturer (2\*4 hours). Summer of 2023.
- Knowledge Representation and Reasoning (English). Southeast University. Guest Lecture (60% among 4\*8 hours). Two semesters in 2021-2022 and 2022-2023.
- Augmenting Machine Learning with Knowledge Base. University of Aberdeen. Guest Lecture (1 hour) to the course of CS551J Knowledge Representation and Reasoning. 2018.
- Graduate teaching assistant of “Object Oriented Programming”, College of Computer Science and Technology, Zhejiang University. 2011 - 2012.
- Graduate teaching assistant of “C Language Programming”, College of Computer Science and Technology, Zhejiang University. 2011 – 2012.

## Knowledge and Technology Transfer, Outreach and Public Engagement

- Consultant (short-term) of Matillion on Data Lakes, Knowledge Graph and Agentic AI. 2025-2026.
- Participate the AMS Network on Neurosymbolic AI for Medicine for research collaboration and knowledge transfer. 2024 – 2025.

- Collaborate with The University of Toronto through a project funded by The Manchester-Melbourne-Toronto (MMT) Research Fund 2024, for applying my research output on AI and Knowledge Graph to support Child and Woman protection. 10/2024 – 03/2026.
- Transfer my research output and expertise on semantic embedding to a Manchester-based startup Mindcubes for developing a search product, through a project funded by Turing Innovation Catalyst Manchester (TICM). 07/2024 - 01/2025.
- Organised the meetings and led imitative research on explainability, AI and healthcare, for knowledge transfer and collaboration with NHS and Manchester Business School, by a Turing-Manchester Feasibility Project. 11/2022 - 04/2023.
- Actively participated the Data Science Program of the SIRIUS Centre for Scalable Data Access in Norway. 11/2017 – 08/2023.
- Collaborated with Norwegian Institute for Water Research (NIVA) for applying my research output and expertise on Knowledge Graph to predict the ecotoxicological effects of chemical compounds on species in the water, by externally co-supervising a PhD student. 2019 – 20222.
- Enterprise Fellow, MPLS, University of Oxford. 2019 – 2020.
- Organization of MPLS Enterprise Fellow’s Entrepreneurship Summit, University of Oxford. 03/11/2020.
- Member of Future SOC Lab by Hasso Plattner Institute in Germany. 2017.
- Volunteer of humanitarian mapping events organized in Heidelberg University, for doctors of International Red Cross in Africa. 2016 – 2017.

## Awards

2025: FHEA Certificate from Advance HE of the UK

2025: Outstanding Resource of 2024 by the OpenKG community

2023: Best paper runner-up, CIKM’23 (Resource Track)

2023: Best paper nominee, ISWC’23 (Research Track)

2022: Best paper nominee, ISWC’22 (Resource Track)

2022: Best applicant paper, IJCKG’22 (Research Track)

2021: Best reviewer, CCKS’21

2021: Best paper nominee, ESWC’21 (Research Track)

2019: Best student paper, ISWC’19 (In-Use Track)

2019 – 2020: Enterprise Fellowship, MPLS, University of Oxford

2019 – 2020: Award of Excellence, Department of Computer Science, University of Oxford

2016: Excellent Postgraduate Student Award, Zhejiang University. This award is for my Ph.D. thesis entitled “Knowledge Reasoning and Predictive Analytics for Spatial Data”

2013 – 2014: Huawei Scholarship of Zhejiang University

2013 – 2014: Hezhijun Scholarship of Zhejiang University

## List of Selective Journal Publications

### 2025

- Zhao, Tianzhe, *Jiaoyan Chen*, Yanchi Ru, Haiping Zhu, Nan Hu, Jun Liu, and Qika Lin. "Exploring Knowledge Poisoning Attacks to Retrieval-Augmented Generation." *Information Fusion* (2025): 103900.
- Yan, Zhichao, Jiapu Wang, *Jiaoyan Chen*, Xiaoli Li, Jiye Liang, Ru Li, and Jeff Z. Pan. "Atomic fact decomposition helps attributed question answering." *IEEE Transactions on Knowledge and Data Engineering* (2025).
- *Jiaoyan Chen*, Olga Mashkova, Fernando Zhapa-Camacho, Robert Hoehndorf, Yuan He, Ian Horrocks. "Ontology Embedding: A Survey of Methods, Applications and Resources". *IEEE Transactions on Knowledge and Data Engineering* (2025).
- Geng, Yuxia, *Jiaoyan Chen*, Yuhang Zeng, Zhuo Chen, Wen Zhang, Jeff Z. Pan, Yuxiang Wang, and Xiaoliang Xu. "Prompting disentangled embeddings for knowledge graph completion with pre-trained language model." *Expert Systems with Applications* 268 (2025): 126175.
- Yu, Han, Hongming Cai, Shengtung Tsai, Mengyao Li, Pan Hu, *Jiaoyan Chen*, and Bingqing Shen. "Exploiting Entity Information for Robust Prediction Over Event Knowledge Graphs." *IEEE Transactions on Emerging Topics in Computing* (2025).
- Chen, Zhuo, Yichi Zhang, Yin Fang, Yuxia Geng, Lingbing Guo, *Jiaoyan Chen*, Xiaoze Liu et al. "Knowledge Graphs for Multi-modal Learning: Survey and Perspective." *Information Fusion* (2025): 103124.

### 2024

- Jingyi Qiu, Aibo Song, Jiahui Jin, *Jiaoyan Chen*, Xinyu Zhang, Xiaolin Fang, Tianbo Zhang. "Matching Tabular Data to Knowledge Graph with Effective Core Column Set Discovery". *ACM Transactions on the Web* 18 (4), 1-27.
- Wen Zhang, Yajing Xu, Peng Ye, Zhiwei Huang, Zezhong Xu, *Jiaoyan Chen*, Jeff Z Pan, Huajun Chen. "Start From Zero: Triple Set Prediction for Automatic Knowledge Graph Completion". *IEEE Transactions on Knowledge and Data Engineering*, Volume: 36, Issue: 11, Page: 7087 – 7101, 2024.
- Yuan He, *Jiaoyan Chen*, Hang Dong, Ian Horrocks, Carlo Allocca, Taehun Kim, Brahmananda Sapkota. "DeepOnto: A Python Package for Ontology Engineering with Deep Learning". *Semantic Web Journal*, 2024.
- Lingbing Guo, Zhuo Chen, *Jiaoyan Chen*, Yichi Zhang, Zequn Sun, Zhongpu Bo, Yin Fang, Xiaoze Liu, Huajun Chen, Wen Zhang. "Distributed representations of entities in open-world knowledge graphs". *Knowledge-Based Systems*. Volume 290, Page 111582, 2024.

### 2023

- *Jiaoyan Chen*, Hang Dong, Janna Hastings, Ernesto Jiménez-Ruiz, Vanessa Lopez, Pierre Monnin, Catia Pesquita, Petr Škoda, Valentina Tamma. "Knowledge Graphs for the Life Sciences: Recent Developments, Challenges and Opportunities". *Transactions on Graph Data and Knowledge*. Volume 1, Issue 1, 2023.
- Jeff Z Pan, Simon Razniewski, Jan-Christoph Kalo, Sneha Singhania, *Jiaoyan Chen*, Stefan Dietze, etc. "Large Language Models and Knowledge Graphs: Opportunities and Challenges". *Transactions on Graph Data and Knowledge*. Volume 1, Issue 1, 2023.
- Norman Paton, *Jiaoyan Chen*, Zhenyu Wu. "Dataset Discovery and Exploration: A Survey". *ACM Computing Surveys* (2023).

- *Jiaoyan Chen*, Yuxia Geng, Zhuo Chen, Jeff Z. Pan, Yuan He, Wen Zhang, Ian Horrocks and Huajun Chen. "Zero-shot and Few-shot Learning with Knowledge Graphs: A Comprehensive Survey". *Proceedings of the IEEE* 11, no. 6 (2023): 653-685, 2024.
- *Jiaoyan Chen*, Yuan He, Yuxia Geng, Ernesto Jimenez-Ruiz, Hang Dong, Ian Horrocks. "Contextual Semantic Embeddings for Ontology Subsumption Prediction". *World Wide Web Journal* (2023): 1-23.
- Li, Yangning, *Jiaoyan Chen*, Yinghui Li, Tianyu Yu, Xi Chen, and Hai-Tao Zheng. "Embracing ambiguity: Improving similarity-oriented tasks with contextual synonym knowledge." *Neurocomputing* 555 (2023): 126583.
- Yuxia Geng, *Jiaoyan Chen*, Xiang Zhuang, Zhuo Chen, Jeff Z. Pan, Juan Li, Zonggan Yuan and Huajun Chen. "Benchmarking Knowledge-driven Zero-shot Learning". *Journal of Web Semantics* 75 (2023): 100757.
- *Jiaoyan Chen*, Ernesto Jimenez-Ruiz, Ian Horrocks, Xi Chen and Erik B. Myklebust. "An assertion and alignment correction framework for large scale knowledge bases", *Semantic Web*, vol. 14, no. 1, pp. 29-53, 2023.

## 2022

- Hang Dong, Matúš Falis, William Whiteley, Beatrice Alex, Joshua Matterson, Shaoxiong Ji, *Jiaoyan Chen*, Honghan Wu. "Automated clinical coding: what, why, and where we are?". *NPJ Digital Medicine* 5.1 (2022): 159.
- Erik B. Myklebust, Ernesto Jiménez-Ruiz, *Jiaoyan Chen*, Raoul Wolf, Knut Erik Tollefsen. "Prediction of adverse biological effects of chemicals using knowledge graph embeddings." *Semantic Web*, vol. 13, no. 3, pp. 299-338, 2022.

## Before 2022

- *Jiaoyan Chen*, Pan Hu, Ernesto Jimenez-Ruiz, Ole Magnus Holter, Denvar Antonyrajah and Ian Horrocks. "OWL2Vec\*: Embedding of OWL Ontologies". *Machine Learning* 110.7 (2021): 1813-1845.
- Yuxia Geng, *Jiaoyan Chen*, Zhiquan Ye, Wei Zhang and Huajun Chen. "Explainable Zero-shot Learning via Attentive Graph Convolutional Network and Knowledge Graphs" *Semantic Web* 12.5 (2021): 741-765. Paper
- *Jiaoyan Chen*, Freddy Lecue, Jeff Z. Pan, Shumin Deng, Huajun Chen. "Knowledge Graph Embeddings for Dealing with Concept Drift in Machine Learning". *Journal of Web Semantics* 67 (2021): 100625. Paper
- *Jiaoyan Chen*, Yan Zhou, Alexander Zipf and Hongchao Fan. "Deep Learning from Multiple Crowds: A Case Study of Humanitarian Mapping." *IEEE Transactions on Geoscience and Remote Sensing* 57 (3), 1713-1722, 2018.
- *Jiaoyan Chen*, Huajun Chen, Zhaohui Wu, Daning Hu, and Jeff Z. Pan. "Forecasting smog-related health hazard based on social media and physical sensor." *Information Systems* 64 (2017): 281-291.
- *Jiaoyan Chen*, Huajun Chen, Xiangyi Wan, Guozhou Zheng. "MR-ELM: a MapReduce-based framework for large-scale ELM training in big data era." *Neural Computing and Applications* 27 (2016): 101-110.
- *Jiaoyan Chen*, Guozhou Zheng, Cong Fang, Ningyu Zhang, Huajun Chen, Zhaohui Wu. "Time-series processing of large scale remote sensing data with extreme learning machine." *Neurocomputing* 128 (2014): 199-206.



## List of Selective Conference Publications

### 2026

- Yang, Hui, *Jiaoyan Chen*, Uli Sattler. "Large Language Model as OWL Proofs." The Web Conference (WWW), 2026.
- Guo, Wenbin, Xin Wang, *Jiaoyan Chen*, Lingbing Guo, Zhao Li, and Zirui Chen. "ReaLM: Residual Quantization Bridging Knowledge Graph Embeddings and Large Language Models." The Web Conference (WWW), 2026.
- Zhou, Dongzhuoran, Yuqicheng Zhu, Xiaxia Wang, Hongkuan Zhou, Yuan He, *Jiaoyan Chen*, Steffen Staab, and Evgeny Kharlamov. "What breaks knowledge graph based rag? empirical insights into reasoning under incomplete knowledge." EACL 2025
- Hu, Nan, Yike Wu, Jiaye Li, Huikang Hu, Guilin Qi, Songlin Zhai, Yingrui Chen, Tianxing Wu, Tongtong Wu, *Jiaoyan Chen* and Jeff Z. Pan "TaxReasoning: Benchmarking Knowledge-Intensive Mathematical Reasoning with Evolving Tax Laws." In The 40th Annual AAAI Conference on Artificial Intelligence. 2025.

### 2025

- Hui Yang, *Jiaoyan Chen*, Yuan He, Yongsheng Gao and Ian Horrocks. "Language Models and Ontology Encoders." ISWC 2025.
- Wenbin Guo, Xin Wang, *Jiaoyan Chen*, Zhao Li and Zirui Chen. "Ontology-enhanced Knowledge Graph Completion using Large Language Models." ISWC 2025.
- Hu, Nan, *Jiaoyan Chen*, Yike Wu, Guilin Qi, Hongru Wang, Sheng Bi, Yongrui Chen, Tongtong Wu, and Jeff Z. Pan. "Can LLMs Evaluate Complex Attribution in QA? Automatic Benchmarking using Knowledge Graphs." ACL 2025.
- Yan, Zhichao, *Jiaoyan Chen*, Jiapu Wang, Xiaoli Li, Ru Li, and Jeff Z. Pan. "Decomposing and Revising What Language Models Generate." ACAI 2025.
- Zhu, Yuqicheng, Jingcheng Wu, Yizhen Wang, Hongkuan Zhou, *Jiaoyan Chen*, Evgeny Kharlamov, and Steffen Staab. "Certainty in Uncertainty: Reasoning over Uncertain Knowledge Graphs with Statistical Guarantees." EMNLP 2025.
- Geng, Yuxia, Runkai Zhu, *Jiaoyan Chen*, Jintai Chen, Zhuo Chen, Xiang Chen, Can Xu, Yuxiang Wang, and Xiaoliang Xu. "Cross-composition Feature Disentanglement for Compositional Zero-shot Learning." Finds of ACL 2025.
- He, Yuan, Bailan He, Zifeng Ding, Alisia Lupidi, Yuqicheng Zhu, Shuo Chen, Caiqi Zhang et al. "Supposedly Equivalent Facts That Aren't? Entity Frequency in Pre-training Induces Asymmetry in LLMs." COLM 2025.
- Zhao, Tianzhe, *Jiaoyan Chen*, Yanchi Ru, Qika Lin, Yuxia Geng, Haiping Zhu, Yudai Pan, and Jun Liu. "Rethinking Continual Knowledge Graph Embedding: Benchmarks and Analysis." ACM SIGIR 2025.
- Wu, Zhenyu, *Jiaoyan Chen*, and Norman W. Paton. "Taxonomy Inference for Tabular Data Using Large Language Models." In European Semantic Web Conference (ESWC) 2025.
- Hui Yang, *Jiaoyan Chen*, Uli Sattler. "TransBox: EL++-closed Ontology Embedding". The Web Conference 2025.
- Xu, Yajing, Zhiqiang Liu, *Jiaoyan Chen*, Mingchen Tu, Zhuo Chen, Jeff Z. Pan, Yichi Zhang, Yushan Zhu, Wen Zhang, and Huajun Chen. "Multi-modal Knowledge Graph Generation with Semantics-enriched Prompts." IJCNN 2025.
- Zhuo Chen, Yin Fang, Yichi Zhang, Lingbing Guo, *Jiaoyan Chen*, Huajun Chen, Wen Zhang. "The Power of Noise: Toward a Unified Multi-modal Knowledge Graph Representation Framework". COLING 2025.

- Wen Zhang, Long Jin, Yushan Zhu, *Jiaoyan Chen*, Zhiwei Huang, Junjie Wang, Yin Hua, Lei Liang, Huajun Chen. "TrustUQA: A Trustful Framework for Unified Structured Data Question Answering". AAAI 2025.
- Rihui Jin, Yu Li, Guilin Qi, Nan Hu, Yuan-Fang Li, *Jiaoyan Chen*, Jianan Wang, Yongrui Chen, Dehai Min. "HGT: Leveraging Heterogeneous Graph-enhanced Large Language Models for Few-shot Complex Table Understanding". AAAI 2025.

## 2024

- Sevinj Teymurova, Ernesto Jiménez-Ruiz, Tillman Weyde, *Jiaoyan Chen*. "OWL2Vec4OA: Tailoring Knowledge Graph Embeddings for Ontology Alignment". Sixth International Knowledge Graph and Semantic Web Conference, 2024.
- Jieying Chen, Hang Dong, *Jiaoyan Chen*, Ian Horrocks. "Ontology Text Alignment: Aligning Textual Content to Terminological Axioms". ECAI 2024. Paper
- Yuan He, Zhangdie Yuan, *Jiaoyan Chen*, Ian Horrocks. "Language Models as Hierarchy Encoders". NeurIPS 2024. Paper
- Lingbing Guo, Zhongpu Bo, Zhuo Chen, Yichi Zhang, *Jiaoyan Chen*, Yarong Lan, Mengshu Sun, Zhiqiang Zhang, Yangyifei Luo, Qian Li, Qiang Zhang, Wen Zhang, Huajun Chen. "MKGL: Mastery of a Three-Word Language". NeurIPS 2024.
- Yike Wu, Yi Huang, Nan Hu, Yuncheng Hua, Guilin Qi, *Jiaoyan Chen*, Jeff Z Pan. "CoTKR: Chain-of-Thought Enhanced Knowledge Rewriting for Complex Knowledge Graph Question Answering". EMNLP 2024.
- Dehai Min, Nan Hu, Rihui Jin, Nuo Lin, *Jiaoyan Chen*, Yongrui Chen, Yu Li, Guilin Qi, Yun Li, Nijun Li, Qianren Wang. "Exploring the Impact of Table-to-Text Methods on Augmenting LLM-based Question Answering with Domain Hybrid Data". NAACL 2024 (Industry Track).
- Hang Dong, *Jiaoyan Chen*, Yuan He, Yongsheng Gao, Ian Horrocks. "A Language Model based Framework for New Concept Placement in Ontologies". ESWC 2024.
- Tianzhe Zhao, *Jiaoyan Chen*, Yanchi Ru, Qika Lin, Yuxia Geng and Jun Liu. "Untargeted Adversarial Attack on Knowledge Graph Embeddings". SIGIR 2024.
- Lingbing Guo, Zhuo Chen, *Jiaoyan Chen*, Qiang Zhang, Huajun Chen. "DET: A Dual-Encoding Transformer for Relational Graph Embedding". COLING 2024.
- Mathias Jackermeier, Jiaoyan Chen, Ian Horrocks. "Dual Box Embeddings for the Description Logic EL++". The Web Conference 2024.
- Jingchuan Shi, Hang Dong, Jiaoyan Chen, Zhe Wu, Ian Horrocks. "Taxonomy Completion via Implicit Concept Insertion". The Web Conference 2024.
- Lingbing Guo, Zhuo Chen, Jiaoyan Chen, Wen Zhang, Huajun Chen. "Revisit and Outstrip Entity Alignment: A Perspective of Generative Models". ICLR 2024
- Yong Guan, Freddy Lecue, *Jiaoyan Chen*, Ru Li, Jeff Z Pan. "Explaining Image Classification through Knowledge-aware Neuron Interpretation". AAAI 2024.

## 2023

- Hang Dong, *Jiaoyan Chen*, Yuan He, Ian Horrocks. "Ontology Enrichment from Texts: A Biomedical Dataset for Concept Discovery and Placement". CIKM 2023 (**Best Resource Paper Runner-up**).
- Hang Dong, *Jiaoyan Chen*, Yuan He, Yinan Liu, Ian Horrocks. "Reveal the Unknown: Out-of-Knowledge-Base Mention Discovery with Entity Linking Authors". CIKM 2023.
- Zhuo Chen, Lingbing Guo, Yin Fang, Yichi Zhang, *Jiaoyan Chen*, Jeff Z Pan, Yangning Li, Huajun Chen, Wen Zhang. "Rethinking Uncertainly Missing and Ambiguous Visual Modality in Multi-Modal Entity Alignment". ISWC 2023 (**Best Paper Nominee**).

- Zhuo Chen, *Jiaoyan Chen*, Lingbing Guo, Yin Fang, Yufeng Huang, Yuxia Geng, Jeff Z Pan, Wenting Song, Huajun Chen. "MEAformer: Multi-modal Entity Alignment Transformer for Meta Modality Hybrid". ACM Multimedia 2023.
- Yong Guan, *Jiaoyan Chen*, Freddy Lecue, Jeff Pan, Juanzi Li, Ru Li. "Trigger-Argument based Explanation for Event Detection". Findings of ACL 2023.
- Yuan He, *Jiaoyan Chen*, Ernesto Jimenez-Ruiz, Hang Dong, Ian Horrocks. "Language Model Analysis for Ontology Subsumption Inference". Findings of ACL 2023. Paper, Github
- Yuan He, Jiaoyan Chen, Hang Dong, Ian Horrocks. "Exploring Large Language Models for Ontology Alignment". ISWC 2023 (poster).
- Jingchuan Shi, *Jiaoyan Chen*, Hang Dong, Ishita Khan, Lizzie Liang, Qunzhi Zhou, Zhe Wu, Ian Horrocks. "Subsumption prediction on e-commerce taxonomies". ESWC 2023.
- Yangning Li, *Jiaoyan Chen*, Yinghui Li, Yuejia Xiang, Xi Chen, Hai-Tao Zheng. "Vision, Deduction and Alignment: An Empirical Study on Multi-modal Knowledge Graph Alignment". ICASSP 2023.
- Zhuo Chen, Yufeng Huang, *Jiaoyan Chen*, Yuxia Geng, Wen Zhang, Yin Fang, Jeff Z Pan, Wenting Song, Huajun Chen. "DUET: Cross-modal Semantic Grounding for Contrastive Zero-shot Learning". AAAI 2023.
- Yuxia Geng, *Jiaoyan Chen*, Wen Zhang, Jeff Z. Pan, Mingyang Chen, Huajun Chen, Song Jiang. "Relational Message Passing for Fully Inductive Knowledge Graph Completion". ICDE 2023.

## 2022

- Yuxia Geng, *Jiaoyan Chen*, Wen Zhang, Yajing Xu, Zhuo Chen, Jeff Z. Pan, Yufeng Huang, Feiyu Xiong, Huajun Chen. "Disentangled Ontology Embedding for Zero-shot Learning". KDD 2022.
- Yuan He, *Jiaoyan Chen*, Hang Dong, Ernesto Jimenez-Ruiz, Ali Hadian and Ian Horrocks. "Machine Learning-Friendly Biomedical Datasets for Equivalence and Subsumption Ontology Matching". ISWC 2022 (**Best Resource Paper Nominee**).
- Zhuo Chen, Yufeng Huang, *Jiaoyan Chen*, Yuxia Geng, Yin Fang, Jeff Z. Pan, Ningyu Zhang, Wen Zhang. "LaKo: Knowledge-driven Visual Question Answering via Late Knowledge-to-Text Injection". IJCKG 2022 (**Best Application Paper**).
- Yuan He, *Jiaoyan Chen*, Denvar Antonyrajah and Ian Horrocks. "BERTMap: A BERT-based Ontology Alignment System". AAAI 2022.

## 2021

- Zhiyuan Qi, Ziheng Zhang, *Jiaoyan Chen*, Xi Chen, Yefeng Zheng. "PRASEMap: A Probabilistic Reasoning and Semantic Embedding based Knowledge Graph Alignment System". CIKM 2021 (Demo).
- Zhuo Chen, *Jiaoyan Chen*, Yuxia Geng, Jeff Z. Pan, Zonggan Yuan and Huajun Chen. "Zero-shot Visual Question Answering using Knowledge Graphs", ISWC 2021.
- *Jiaoyan Chen*, Yuxia Geng, Zhuo Chen, Ian Horrocks, Jeff Z. Pan and Huajun Chen. "Knowledge-aware Zero-shot Learning: Survey and Perspective". IJCAI 2021.
- Zhiyuan Qi, Ziheng Zhang, *Jiaoyan Chen*, Xi Chen, Yuejia Xiang, Ningyu Zhang, Yefeng Zheng. "Unsupervised Knowledge Graph Alignment by Probabilistic Reasoning and Semantic Embedding". IJCAI 2021.
- Yuejia Xiang, Ziheng Zhang, *Jiaoyan Chen*, Xi Chen, Zhenxi Lin and Yefeng Zheng. "OntoEA: Ontology-guided Entity Alignment via Joint Knowledge Graph Embedding". Findings of ACL 2021.

- *Jiaoyan Chen*, Ernesto Jimenez-Ruiz, Ian Horrocks, Denvar Antonyrajah, Ali Hadian and Jaehun Lee. "Augmenting Ontology Alignment by Semantic Embedding and Distant Supervision". ESWC 2021 (**Best Paper Nominee**).
- Yuxia Geng, *Jiaoyan Chen*, Zhuo Chen, Jeff Z. Pan, etc. "OntoZSL: Ontology-enhanced Zero-shot Learning". The Web Conference (WWW) 2021.

## 2020

- Ziheng Zhang, *Jiaoyan Chen*, Xi Chen, Hualuo Liu, Yuejia Xiang, Bo Liu and Yefeng Zhang. "An Industry Evaluation of Embedding-based Entity Alignment". The 28th International Conference on Computational Linguistics (COLING) 2020.
- *Jiaoyan Chen*, Freddy Lecue, Yuxia Geng, Jeff Z. Pan and Huajun Chen. "Ontology-guided Semantic Composition for Zero-Shot Learning", KR 2020.
- Ernesto Jimenez-Ruiz, Oktie Hassanzadeh, Vasilis Efthymiou, *Jiaoyan Chen* and Kavitha Srinivas. "SemTab 2019: Resources to Benchmark Tabular Data to Knowledge Graph Matching Systems." ESWC 2020.
- *Jiaoyan Chen*, Xi Chen, Ian Horrocks, Ernesto Jimenez-Ruiz and Erik B. Myklebus. "Correcting Knowledge Base Assertions." The Web Conference (WWW) 2020.
- Ernesto Jimenez-Ruiz, Asan Agibetov, *Jiaoyan Chen*, Matthias Samwald and Valerie Cross. "Dividing the Ontology Alignment Task with Semantic Embeddings and Logic-based Modules." the 24th European Conference on Artificial Intelligence (ECAI) 2020.

## 2019

- *Jiaoyan Chen*, Ernesto Jimenez-Ruiz and Ian Horrocks. "Canonicalizing Knowledge Base Literals." International Semantic Web Conference (ISWC) 2019.
- Erik B. Myklebust, Ernesto Jimenez-Ruiz, *Jiaoyan Chen*, Raoul Wolf, Knut Erik Tollefsen. "Knowledge Graph Embedding for Ecotoxicological Effect Prediction." International Semantic Web Conference (ISWC) 2019. **Best Student Paper**.
- *Jiaoyan Chen*, Ernesto Jimenez-Ruiz, Ian Horrocks, and Charles Sutton. "Learning Semantic Annotations for Tabular Data." IJCAI 2019.
- *Jiaoyan Chen*, Ernesto Jimenez-Ruiz, Ian Horrocks, and Charles Sutton. "ColNet: Embedding the Semantics of Web Tables for Column Type Prediction." AAAI 2019.
- Wen Zhang, Bibek Paudel, Liang Wang, *Jiaoyan Chen*, Hai Zhu, Wei Zhang, Abraham Bernstein, Huajun Chen. "Iteratively Learning Embeddings and Rules for Knowledge Graph Reasoning." The Web Conference (WWW) 2019.

## Before 2019

- *Jiaoyan Chen*, Freddy Lecue, Jeff Z. Pan, Ian Horrocks, and Huajun Chen. "Knowledge-based Transfer Learning Explanation." KR 2018.
- *Jiaoyan Chen*, Freddy Lecue, Jeff Z. Pan, and Huajun Chen. "Learning from ontology streams with semantic concept drift." IJCAI 2017.
- *Jiaoyan Chen*, Huajun Chen, Daning Hu, Jeff Z. Pan, Yalin Zhou. "Smog Disaster Forecasting using Social Web Data and Physical Sensor Data." IEEE Big Data 2015.
- *Jiaoyan Chen*, Huajun Chen, Guozhou Zheng, Jeff Z. Pan, Honghan Wu and Ningyu Zhang. "Big smog meets web science: smog disaster analysis based on social media and device data on the web." WWW 2014.