

# Yuxin (Audrey) Wang

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## EDUCATION

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- **Nanjing University (Recommended)** Nanjing, Jiangsu, China  
Master in Computer Science  
Sep. 2019 - Current  
- Research Advisor: Wei Hu  
- Courses: *Natural Language Processing, Knowledge Graph, Knowledge Representation and Reasoning, Knowledge Engineering with Semantic Web Technologies, Advanced Machine Learning, Agent Technology.*
- **Nanjing University** Nanjing, Jiangsu, China  
Bachelor of Computer Science  
Sep. 2015 - June 2019  
- Courses: *Artificial Intelligence, Introduction to Data Mining, Big Data Processing, Introduction and Application of Database, Algorithm Design and Analysis, Advanced Programming, Probability and Mathematical Statistics, Linear Algebra.*

## LANGUAGE LEVEL

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TOEFL: 106' (/120); Native Mandarin speaker; GRE: *in preparation*

## RESEARCH INTERESTS

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Knowledge Representation Learning; Semantic Web; Knowledge-enhanced Natural Language Generation

## PUBLICATIONS

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1. **Open-world Story Generation With Structured Knowledge Enhancement: A Comprehensive Survey** (*pre-print*)  
*Yuxin Wang, Jieru Lin, Börje F. Karlsson, Zhiwei Yu*  
- We give a comprehensive summarization of the progress on structured knowledge-enhanced story generation.
2. **Facing Changes: Continual Entity Alignment for Growing Knowledge Graphs** (*ISWC2022*)  
*Yuxin Wang, Yuanning Cui, Wenqiang Liu, Zequn Sun, Yiqiao Jiang, Kexin Han, Wei Hu*  
- We propose a new and realistic entity alignment setting where new data continually emerge. We design a novel continual entity alignment method and it outperforms state-of-art static alignment methods under this new setting.
3. **Inductive Knowledge Graph Reasoning for Multi-batch Emerging Entities** (*CIKM2022*)  
*Yuanning Cui, Yuxin Wang, Zequn Sun, Wenqiang Liu, Yiqiao Jiang, Kexin Han, Wei Hu*  
- We propose a walk-based inductive knowledge graph reasoning model to tackle a new setting where unseen entities emerge in multiple sequential batches. Our model achieves superior performance against various existing models.
4. **Revisiting Embedding-based Entity Alignment: A Robust and Adaptive Method** (*TKDE2022*)  
*Zequn Sun, Wei Hu, Chengming Wang, Yuxin Wang, Yuzhong Qu*  
- We revisit existing entity alignment methods and present their defections in practical and challenging scenarios. We develop a robust and adaptive model which reaches state-of-the-art performance on entity alignment task.

## RESEARCH PROJECTS

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- **Enhancing open-world story generation with structured knowledge** *July 2022 - Jan 2023*  
- Work done in Microsoft Research Asia.  
- For input story contexts, we retrieve and build local knowledge graphs to guide GPT-3 on story generation. Structured knowledge enables event reasoning and content planning, which help to produce more coherent and reasonable stories.
- **Entity fusion on cross-lingual game knowledge graphs** *Dec. 2021 - Nov. 2022*  
- Cooperated and founded by Interactive Entertainment Group (IEG), Tencent.  
- I Build two game knowledge graphs using app items scraped from App Store and Google Play. I use BERT to encode knowledge graphs and design an effective method to match cross-lingual entities.
- **Representation learning on large-scale knowledge graphs** *Nov. 2019 - Oct. 2021*  
- Founded by the State Key Laboratory of Mathematical Engineering and Advanced Computing, China.  
- I am responded for studying entity alignment in large-scale knowledge graphs. I participate in a submission in CIKM2021 on entity alignment task.

- **Incremental knowledge graph representation learning**

*June 2019 - Dec. 2019*

- Founded by the Rhino-Bird Cooperation Program of Tencent
- As the project leader, I am responsible for exploring an efficient incremental knowledge graph embedding method. I design an incremental learning model using GNN. A paper about the work was submitted to AAAI2019.

Detailed project experience and information can be found in my personal website!

## PATENT

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- **A Method for Lifelong Entity Alignment on Cross-lingual Knowledge Graphs** (*under review*) *2022*  
- Yuxin Wang, Yuanning Cui, Zequn Sun, Wenqiang Liu, Yiqiao Jiang, Kexin Han, Wei Hu

## INTERNSHIP EXPERIENCE

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- **Research Intern in Microsoft Research Asia** *Beijing, China, July 2022 - Current*
  - Mentor: Börje F. Karlsson
  - Research Group: Knowledge Computing
  - Research on structured knowledge-enhanced story generation.

## TEACHING EXPERIENCE

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- **Introduction to Database System** *Teaching Assistant* *Fall 2020*
  - Undergraduate-level introduction to the basic concepts and theory of relational DB system. Taught by Prof. Wei Hu.

## TECHNICAL SKILLS

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- Skillful in Python, SQL, and C++ programming languages.
- Practiced in PyTorch and TensorFlow deep learning frameworks.
- Rich knowledge background in knowledge graph, graph neural network, and continual learning.

## HONORS AND AWARDS

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- Graduate Academic Scholarship, First Prize *2019, 2020, 2021*
- The People's Scholarship *2016, 2017, 2018*

## INTERESTS

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- Tech blog writer on Medium (@audreywongkg) and my personal blog. Always love to share :)
- Love sports (hiking, jogging, swimming, and badminton).
- Music and movie lover! I play the guitar and ukulele.
- Enjoy cooperative works and getting inspired by amazing people.