

Yaokun Liu

Ph.D., University of Illinois Urbana-Champaign

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RESEARCH INTERESTS

My research focuses on **Reliable Agentic Systems** and **Generative Personalization**, driven by two core pillars:

- **Reliable LLMs & Agents:** uncertainty quantification and calibration, hallucination detection and mitigation, and robust reasoning and decision-making in agentic and multi-agent systems.
- **Personalized LLMs & Generative Retrieval:** user modeling and representation learning for generative retrieval, personalized language models, and generative recommendation.

EDUCATION

University of Illinois Urbana-Champaign

Ph.D. in Information Sciences

Champaign, IL

2024 – Present

Tianjin University

M.Eng. in Computer Science

Tianjin, China

2021 – 2024

University of Science and Technology Beijing

B.S. in Intelligence Science and Technology

Beijing, China

2017 – 2021

PUBLICATIONS

First/Co-First-Authored Papers (* denotes equal contribution)

1. [EMNLP 2026 \(Main Conference\)](#)

PropUQ-MAS: Propagation-Aware Uncertainty Quantification for LLM Multi-Agent Systems

Yaokun Liu*, Yifan Liu*, Daniel Yue Zhang, Ruichen Yao, Zelin Li, Dong Wang

2. [RecSys 2026](#)

Topology-Aware Tokenization for Generative Recommendation

Yaokun Liu, Yifan Liu, Zhenrui Yue, Gyuseok Lee, Zelin Li, Ruichen Yao, Dong Wang

3. [SIGIR 2026](#)

Learning Decomposed Contextual Token Representations from Pretrained and Collaborative Signals for Generative Recommendation

Yifan Liu*, Yaokun Liu*, Zelin Li, Zhenrui Yue, Ruichen Yao, Yang Zhang, Dong Wang

4. [WWW 2026](#)

Mind the Ambiguity: Aleatoric Uncertainty Quantification in LLMs for Safe Medical Question Answering

Yaokun Liu, Yifan Liu, Phoebe Mbuvi, Zelin Li, Ruichen Yao, Gawon Lim, Dong Wang

5. [ACM ToRS 2026](#)

One Size Does Not Fit All: Adaptive Interest Representation Learning for Multi-interest Recommendation

Yaokun Liu, Yifan Liu, Ruichen Yao, Zelin Li, Dong Wang

6. [WSDM 2024](#)

Attribute Simulation for Item Embedding Enhancement in Multi-interest Recommendation

Yaokun Liu, Xiaowang Zhang, Minghui Zou, Zhiyong Feng

7. [RecSys 2023](#)

Co-occurrence Embedding Enhancement for Long-tail Problem in Multi-Interest Recommendation

Yaokun Liu, Xiaowang Zhang, Minghui Zou, Zhiyong Feng

Co-Authored Papers

8. [SIGIR 2026](#)

SPRINT: Scalable and Predictive Intent Refinement for LLM-Enhanced Session-based Recommendation

Gyuseok Lee, Wonbin Kweon, Zhenrui Yue, Yaokun Liu, Yifan Liu, Susik Yoon, Dong Wang, SeongKu Kang

9. [WWW 2026](#)
Red-Teaming Privacy-Protective Perturbations: Blind Face Restoration as an Attack Strategy
 Zelin Li, Yifan Liu, Huimin Zeng, **Yaokun Liu**, Ruichen Yao, Yang Zhang, Dong Wang
10. [HCOMP 2026](#)
Beyond Truth Discovery: A Two-Stage Framework to Assess the Severity of False Claim during Disasters
 Ruichen Yao, Tejna Dasari, Gulshat Baispay, Aizhan Zaurbek, Yifan Liu, **Yaokun Liu**, Zelin Li, Dong Wang
11. [ICWSM 2026](#)
MASH: A Multiplatform and Multimodal Annotated Dataset for Societal Impact of Hurricane
 Ruichen Yao, Aslanbek Murzakhmetov, Raaghav Pillai, Aliya Maussymbayeva, Zelin Li, Yifan Liu, **Yaokun Liu**, Lanyu Shang, Yang Zhang, Na Wei, Ximing Cai, Dong Wang
12. [ICWSM 2026](#)
DisImpact: Quantifying the Physi-Social Impact of Natural Disasters Through Social Media
 Ruichen Yao, Tejna Dasari, Xuanyu Meng, Elliot Cao, Zelin Li, Yifan Liu, **Yaokun Liu**, Lanyu Shang, Dong Wang
13. [ICCV 2025](#)
Anti-Tamper Protection for Unauthorized Individual Image Generation
 Zelin Li, Ruohan Zong, Yifan Liu, Ruichen Yao, **Yaokun Liu**, Yang Zhang, Dong Wang
14. [FAccT 2025](#)
Component-Based Fairness in Face Attribute Classification with Bayesian Network-informed Meta Learning
 Yifan Liu, Ruichen Yao, **Yaokun Liu**, Ruohan Zong, Zelin Li, Yang Zhang, Dong Wang
15. [WWW 2025](#)
Modality Interactive Mixture-of-Experts for Fake News Detection
 Yifan Liu, **Yaokun Liu**, Zelin Li, Ruichen Yao, Yang Zhang, Dong Wang
16. [WWW Journal 2024](#)
High-level Preferences as Positive Examples in Contrastive Learning for Multi-interest Sequential Recommendation
 Zizhong Zhu, Shuang Li, **Yaokun Liu**, Xiaowang Zhang, Zhiyong Feng, Yuexian Hou
17. [WWW 2023 \(Demo\)](#)
Multi-interest Recommendation on Shopping for Others
 Shuang Li, **Yaokun Liu**, Xiaowang Zhang, Yuexian Hou, Zhiyong Feng

EXPERIENCE

University of Illinois Urbana-Champaign

Champaign, IL

- **Research Assistant** 2024 – 2025
 Conducting research on multi-agent systems, uncertainty quantification, and generative recommendation.
- **Teaching Assistant** 2025 – 2026
 Courses: Data Mining (Fall 2026), Methods of Data Science (Spring 2026), Intro to Database Concepts & Applications (Fall 2025).

SERVICE

Journal & Conference Reviewer

- **Conferences:** ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)
- **Journals:** IEEE Transactions on Knowledge and Data Engineering (TKDE), IEEE Transactions on Big Data (TBD)

AWARDS

Illinois Distinguished Fellowship (3-year), University of Illinois Urbana-Champaign	2024
Graduate Academic Scholarship, Tianjin University	2021-2024
Academic Scholarship, University of Science and Technology Beijing	2017-2021