Jiawei Xu

Ph.D. Student in Information Studies

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EDUCATION

Ph.D. Student in Information Studies Aug. 2023–Present
The University of Texas at Austin
Committee: Prof. Ying Ding (Chair), Prof. Yan Zhang, Prof. Kenneth Fleischmann
Focus: LLM-Based Agents, Agent Workflow Orchestration, Healthcare AI, Scientific Collaboration

M.S. in Information Science Sep. 2021–Jul. 2023
Peking University
Advised by: Dr. Yi Bu and Dr. Win-bin Huang
Award: Excellent Graduate of Beijing

B.M. in Information Management & Systems Sep. 2017–Jul. 2021
Peking University

PUBLICATIONS

Conference Papers

1. **[ICML 2026 Submission] Xu, J.**, Koesdwiady, A., Bei, S., Han, Y., Huang, B., Wang, D., Chen, Y., Wang, Z., Wang, P., Li, P., & Ding, Y. (2026). Rethinking the Value of Multi-Agent Workflow: A Strong Single Agent Baseline. ***In submission*** *to ICML 2026.* [arXiv] *(Featured as cover paper in DAIR.AI Top AI Papers of the Week)*
2. **[EMNLP 2025]** Pandit, S., **Xu, J.**, Hong, J., Wang, Z., Chen, T., Xu, K., & Ding, Y*. (2025). MedHallu: A Comprehensive Benchmark for Detecting Medical Hallucinations in Large Language Models. *EMNLP 2025 Main Conference.* [Link] *(Acceptance rate: 22%)*
3. **[AAAI 2025]** Cox, K., **Xu, J.**, Han, Y., Xu, R., Chen, T., Gerych, W., & Ding, Y*. (2025). Mapping from Meaning: Addressing the Miscalibration of Prompt-Sensitive Language Models. In *Proceedings of AAAI 2025.* [Code] [Link] *(Acceptance rate: 23%)*
4. **[ASIS&T 2025] Xu, J.**, Chen, J., Ye, Y., Sembay, Z., Thaker, S., Payne-Foster, P., Chen, J., & Ding, Y*. (2025). Interactive Graph Visualization and Teaming Recommendation in an Interdisciplinary Project's Talent Knowledge Graph. *ASIS&T 2025.* [Demo] *(Acceptance rate: 28%)*
5. **[JCDL 2024] Xu, J.**, Xie, Q., Liu, M., Sembay, Z., Thaker, S., Payne-Foster, P., Chen, J. Y., & Ding, Y*. (2024). Decoding Patterns of Data Generation Teams for Clinical and Scientific Success: Insights from the Bridge2AI Talent Knowledge Graph. In *Proceedings of JCDL 2024. (Acceptance rate: 30%)*
6. **[WWW 2026]** Lu, M., Wu, M., **Xu, J.**, Li, W., Liu, F., Ding, Y., Sun, Y., Lu, J., & Zhang, Y. (2026). From Newborn to Impact: Bias-Aware Citation Prediction. *The Web Conference 2026.* [arXiv]
7. **[ICHI 2025]** Cox, K.*, Qu, G.*, Hsu, C.-Y., **Xu, J.**, Zhou, Y., Tan, Z., Hu, M., Chen, T., Hu, Z., Zhao, Z.†, & Ding, Y.† (2025). Thought Graph: Balancing specificity and uncertainty in LLM-based gene set annotation. *IEEE ICHI 2025.*
8. **[ML4H 2024]** Naeem, A., Li, T., Liao, H.-R., **Xu, J.**, Mathew, A. M., Zhu, Z., Tan, Z., Jaiswal, A. K., Salibian, R. A., Hu, Z., Chen, T., & Ding, Y*. (2024). Path-RAG: Knowledge-Guided Key Region Retrieval for Open-ended Pathology Visual Question Answering. *ML4H 2024.* [Code] [Link]
9. **[WWW 2024]** Hsu, C.-Y., Cox, K., **Xu, J.**, Tan, Z., Zhai, T., Hu, M., Pratt, D., Chen, T., Hu, Z., & Ding, Y*. (2024). Thought Graph: Generating Thought Process for Biological Reasoning. In *Companion Proceedings of the ACM Web Conference 2024 (WWW'24 Companion).* [Link]

Journal Articles

10. **[JASIST] Xu, J.**, Zheng, Z., Min, C., Huang, W., & Bu, Y*. (2025). Knowledge Integration and Diffusion Structures of Interdisciplinary Research: A Large-Scale Analysis Based on Propensity Score Matching. *Journal of the Association for Information Science and Technology.* [Code] [PDF]

11. [**Scientific Data**] Xu, J., Yu, C., **Xu, J.**, Torvik, V. I., Kang, J., Sung, M., Song, M., Bu, Y., & Ding, Y*. (2025). PubMed Knowledge Graph 2.0: Connecting Papers, Patents, and Clinical Trials in Biomedical Science. *Scientific Data*.

Workshop Proposals

12. [**NeurIPS 2025**] **Xu, J.**, Xiang, T., Rajpurkar, P., Hong, J., Chen, C., Adeli, E., Li, X., Pavlakos, G., Delp, S., Fei-Fei, L., & Ding, Y. (2025). The Second Workshop on GenAI for Health: Potential, Trust, and Policy Compliance. *NeurIPS 2025 Workshop Proposal. (Accepted)*

Working Papers

13. **Xu, J.**, Zhai, Z., Fang, J., Xu, R., Lu, M., Zhang, Y., Wang, G., Chen, T., & Ding, Y. (2026). SEER: Robust Long-Context Reasoning via Selective Visual-Text Compression. ***In preparation***
14. **Xu, J.**, Ye, Y., Han, Y., Wang, H., Shomer, H., Li, W., Lu, M., Wu, M., Liu, F., Zhang, Y., Sun, Y., Tang, J., & Ding, Y. (2026). MATRIX: Multi-Agent Teaming Recommendation through EXpertise Gap Identification. ***In preparation***
15. **Xu, J.**, Lee, Y., Youssef, A. E., Yun, E., Huang, T., Guo, T., Saber, H., Ying, R., & Ding, Y*. (2025). Beyond Feature Importance: Feature Interactions in Predicting Post-Stroke Rigidity with Graph Explainable AI. *arXiv preprint*. [arXiv]
16. Xu, H., Yi, S., Lim, T., **Xu, J.**, Well, A., Mery, C., Zhang, A., Zhang, Y., Ji, H., Pingali, K., Leng, Y., & Ding, Y*. (2025). TAMA: A Human-AI Collaborative Thematic Analysis Framework Using Multi-Agent LLMs for Clinical Interviews. *arXiv preprint*. [arXiv]
17. **Xu, J.** (co-first), Raza, Z. (co-first), Lim, T., Boddy, L., Mery, C., Well, A., & Ding, Y*. (2025). LLM-TA: An LLM-Enhanced Thematic Analysis Pipeline for Transcripts from Parents of Children with Congenital Heart Disease. *GenAI4Health Workshop at AAAI*. [Code] [Link]

EMPLOYMENT

Applied Scientist Intern May 2025–Nov. 2025
Amazon Search, Palo Alto, CA
Mentors: Arief Koesdwiady, Sisong Bei, Yan Han; Manager: Yutong Chen

- **Rethinking the Value of Multi-Agent Workflow: A Strong Single Agent Baseline** (ICML 2026 submission; featured as cover paper in DAIR.AI Top AI Papers of the Week)
- Received **Inclined** rating (top performance tier); eligible for interview-free return with team matching

Graduate Research Assistant Aug. 2023–Present
School of Information, The University of Texas at Austin, Austin, TX

- **Patient Simulator**: Voice LLM agent using ElevenLabs API to simulate cancer patients for medical communication training; helps medical students practice patient interaction skills [Demo]
- **MATRIX**: Multi-Agent Teaming Recommendation via Interactive Expertise Gap Identification (with Prof. Jiliang Tang & Prof. Ying Ding)
- **Cell Maps for AI (CM4AI)**: Data Generation Project (with Prof. Jake Chen & Prof. Ying Ding)

SERVICE

Workshop Organizer (Student Lead) 2025
GenAI4Health Workshop at NeurIPS 2025
Featured speakers: Suchi Saria (JHU), Eric Topol (Scripps), James Zou (Stanford), Jimeng Sun (UIUC), Serena Yeung (Stanford), Diyi Yang (Stanford), Fei Wang (Cornell), Sharon Li (UW-Madison), Tianlong Chen (UNC), et al.

Onsite Student Organizer 2024
NeurIPS 2024 GenAI4Health Workshop, Vancouver, Canada
Featured speakers: James Zou (Stanford), David Sontag (MIT), Zachary Lipton (CMU), Bo Li (UChicago), Su-In Lee (UW), Sanmi Koyejo (Stanford), Tanveer Syeda-Mahmood (IBM), Daguang Xu (NVIDIA), et al.

Academic Service

Journal Reviewer

- ACM Computing Surveys
- Data and Information Management
- Journal of the Association for Information Science and Technology

- Nature Humanities & Social Sciences Communications
- Online Information Review
- Data Intelligence
- Information & Culture
- Journal of Clinical and Translational Science
- Scientometrics

Conference PC Member

- ICML (2026)
- KDD AI4Sciences (2026)
- AAAI (2026)
- AAAI 2026 AI Alignment (2026)

INVITED TALKS AND TEACHING EXPERIENCE

CM4AI Talent Knowledge Graph
Virtual Talk Oct. 2024; Apr. 2025

Beyond Correlation: What Factors Influence Scientific Performance
Virtual Talk Aug. 2023

Guest Lecture: LLM Prompt Engineering and Multi-Agent Systems
The University of Texas at Austin 2024–2025

Teaching Assistant: Data Visualization
Peking University 2021–2023

Teaching Assistant: Complex Networks
Peking University 2022

PROFESSIONAL SKILLS

LLM	LLM Agents, Post-training (SFT, RLHF, GRPO), veRL, Ray, Slurm, vLLM
LLM Frameworks	LangChain, Vector Databases (Pinecone, FAISS), RAG
ML & Data	Python, PyTorch, Hugging Face (Transformers, Datasets, PEFT), NumPy, Pandas
Web Dev	JavaScript, Node.js, npm, Svelte, Streamlit
Cloud	AWS, Microsoft Azure
Languages	English (Professional), Mandarin (Native)