

Zijun Yao

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RESEARCH INTERESTS

AI/ML, Health Informatics, Large-Language Models (LLMs)

EDUCATION

Ph.D. in Information Technology (2018)

Advisor: Dr. Hui Xiong
Rutgers, the State University of New Jersey, NJ

M.S. in Computer Engineering (2011)

Northeastern University, MA

B.E. in Electrical Engineering (2009)

Guangdong University of Technology, China

PROFESSIONAL EXPERIENCE

Assistant Professor (August 2021 - Present)

Department of Electrical Engineering & Computer Science
University of Kansas
Lawrence, KS

Research Scientist (June 2018 - August 2021)

Center for Computational Health
IBM Research
Yorktown Heights, NY

Research Intern (May 2017 - August 2017)

Advertising Science Group
Yahoo Research
Sunnyvale, CA

Research Intern (June 2016 - August 2016)

Artificial Intelligence Lab
Technicolor
Los Altos, CA

Research Intern (June 2014 - August 2014 & June 2015 - August 2015)

Research & Innovation Department
InterDigital
King of Prussia, PA

Quantitative Analyst Intern (March 2012 - May 2012)

Data Integration Group
Nielsen Media Research
New York, NY

HONORS & AWARDS

- New Faculty Research Development Award, 2023
- IBM Research Accomplishments Award, 2020
- IBM First Patent Application Innovation Achievement Award, 2020

- International Joint Conferences on Artificial Intelligence (IJCAI) Travel Award, 2018
- ACM International Conferences on Web Search and Data Mining (WSDM) Travel Award, 2018
- IEEE International Conferences on Data Mining (ICDM) Travel Award, 2016
- SIAM International Conferences on Data Mining (SDM) Travel Award, 2016
- Dean’s Scholarship for Summer Research, Rutgers University, 2014

COURSES TAUGHT

- **330 Data Structures and Algorithms** (Fall 2023, 2024)
EECS Department, University of Kansas
- **568 Introduction to Data Mining** (Fall 2021, 2022, 2023, 2024, 2025)
EECS Department, University of Kansas
- **836 Machine Learning** (Spring 2022, 2023, 2024, 2025)
EECS Department, University of Kansas

PUBLICATIONS

Citation \geq 1960 (July 2025 from Google Scholar: <https://shorturl.at/2vh3h>)

Publication

1. Mohsen Nayebi Kerdabadi, Arya Hadizadeh Moghaddam, Dongjie Wang, **Zijun Yao**, “Multi-Ontology Integration with Dual-Axis Propagation for Medical Concept Representation”, *ACM International Conference on Information and Knowledge Management (CIKM)*, 2025.
2. Yanping Wu, Yanyong Huang, **Zijun Yao**, Yanjie Fu, Kunpeng Liu, Xiao Luo, Dongjie Wang, “Adaptive Context-Infused Performance Evaluator for Iterative Feature Space Optimization”, *ACM International Conference on Information and Knowledge Management (CIKM)*, 2025.
3. Xi Chen, Jeffrey Thompson, **Zijun Yao**, Joseph C. Cappelleri, Jonah Amponsah, Rishav Mukherjee, Jinxiang Hu, “Explainable AI predicting Alzheimer’s disease with latent multimodal deep neural networks”, *Journal of Biopharmaceutical Statistics*, 2025.
4. Deyi Li, **Zijun Yao**, Muxuan Liang, Mei Liu, “DeepJ: Graph Convolutional Transformers with Differentiable Pooling for Patient Trajectory Modeling”, *American Medical Informatics Association Annual Symposium (AMIA)*, 2025.
5. Rui Liu, Rui Xie, **Zijun Yao**, Yanjie Fu, Dongjie Wang, “Continuous Optimization for Feature Selection with Permutation-Invariant Embedding and Policy-Guided Search”, *ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)*, 2025.
6. Ling Zhang, *Zijun Yao*, Arya Hadizadeh Moghaddam, “Designing GenAI Tools for Personalized Learning Implementation: Theoretical Analysis and Prototype of a Multi-Agent System”, *Journal of Teacher Education*, 2025.
7. Jinxiang Hu, Mohsen Nayebi Kerdabadi, Xiaohang Mei, Joseph Cappelleri, Richard Barohn, **Zijun Yao**, “Recurrent Neural Networks and Attention Scores for Personalized Prediction and Interpretation of Patient-Reported Outcomes”, *Journal of Biopharmaceutical Statistics*, 2025.
8. Arya Hadizadeh Moghaddam, Mohsen Nayebi Kerdabadi, Bin Liu, Mei Liu, **Zijun Yao**, “Discovering Time-Aware Hidden Dependencies with Personalized Graphical Structure in Electronic Health Records”. *ACM Transactions on Knowledge Discovery from Data (TKDD)*, 2024.
9. Arya Hadizadeh Moghaddam, Mohsen Nayebi Kerdabadi, Mei Liu, **Zijun Yao**, “Contrastive Learning on Medical Intents for Sequential Prescription Recommendation”. *ACM International Conference on Information and Knowledge Management (CIKM)*, 2024.
10. Arya Hadizadeh Moghaddam, Mohsen Nayebi Kerdabadi, Cuncong Zhong, **Zijun Yao**, “Meta-Learning on Augmented Gene Expression Profiles for Enhanced Lung Cancer Detection”. *American Medical Informatics Association Annual Symposium (AMIA)*, 2024.

11. Zeyan Liu, **Zijun Yao**, Fengjun Li, Bo Luo, "On the Detectability of ChatGPT Content: Benchmarking, Methodology, and Evaluation through the Lens of Academic Writing", *ACM Conference on Computer and Communications Security (CCS)*, 2024.
12. Mohsen Nayebi Kerdabadi, Arya Hadizadeh Moghaddam, Bin Liu, Mei Liu, **Zijun Yao**, "Contrastive Learning of Temporal Distinctiveness for Survival Analysis in Electronic Health Records". *ACM International Conference on Information and Knowledge Management (CIKM)*, 2023.
13. **Zijun Yao**, Bin Liu, Fei Wang, Daby Sow, Ying Li, "Ontology-Aware Prescription Recommendation in Treatment Pathways using Multi-Evidence Healthcare Data". *ACM Transactions on Information Systems (TOIS)*, 2023.
14. Ishrak Hayet, **Zijun Yao**, Bo Luo, "Invernet: An Inversion Attack Framework to Infer Fine-Tuning Datasets through Word Embeddings". *Findings of 2022 Conference on Empirical Methods in Natural Language Processing (Findings of EMNLP)*, 2022.
15. Dinuka Rajapakse, Josh Meckstroth, Dylan T. Jantz, Kyle Vincent Camarda, **Zijun Yao**, and Kevin C. Leonard, "Deconvoluting Kinetic Rate Constants of Catalytic Substrates from Scanning Electrochemical Approach Curves with Artificial Neural Networks." *ACS Measurement Science Au*, 2022.
16. **Zijun Yao**, Deguang Kong, Miao Lu, Xiao Bai, Jian Yang, Hui Xiong, "Multi-View Multi-Task Campaign Embedding for Cold-Start Conversion Rate Forecasting." *IEEE Transactions on Big Data (TBD)*, 2022.
17. Chunyu Liu, Yongjian Yang, **Zijun Yao**, Yuanbo Xu, Weitong Chen, Lin Yue, Haomeng Wu, "Discovering Urban Functions of High-Definition Zoning with Continuous Human Traces". *ACM Int. Conf. on Information and Knowledge Management (CIKM)*, 2021.
18. Liuyi Yao, **Zijun Yao**, Jianying Hu, Jing Gao, Zhaonan Sun, "Deep Staging: An Interpretable Deep Learning Framework for Disease Staging". *IEEE Int. Conf. on Healthcare Informatics (ICHI)*, 2021.
19. Mohamed Ghalwash, **Zijun Yao**, Prithwish Chakraborty, James Codella, Daby Sow, "Phenotypical Ontology Driven Framework for Multi-Task Learning." *ACM Conf. on Health, Inference, and Learning (CHIL)*, 2021.
20. Yong Ge, **Zijun Yao**, Huayu Li, "Computing Co-location Patterns in Spatial Data with Extended Objects: a Scalable Buffer-based Approach." *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 2021.
21. James Codella, Hillol Sarker, Prithwish Chakraborty, Mohamed Ghalwash, **Zijun Yao**, Daby Sow, "eXITs: An Ensemble Approach for Imputing Missing EHR Data." *IEEE Int. Conf. on Healthcare Informatics (ICHI)*, 2019.
22. **Zijun Yao**, Yanjie Fu, Bin Liu, Wangsu Hu, Hui Xiong, "Representing Urban Functions through Zone Embedding with Human Mobility Patterns." *Int. Joint Conf. on Artificial Intelligence (IJCAI)*, 2018.
23. **Zijun Yao**, Yifan Sun, Weicong Ding, Nikhil Rao, Hui Xiong, "Dynamic Word Embeddings for Evolving Semantic Discovery." *ACM Int. Conf. on Web Search and Data Mining (WSDM)*, 2018.
24. Wangsu Hu, **Zijun Yao**, Sen Yang, Shuhong Chen, Peter J. Jin, "Discovering Urban Travel Demands through Dynamic Zone Correlation in Location-Based Social Networks." *European Conf. on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML-PKDD)*, 2018.
25. **Zijun Yao**, Yanjie Fu, Bin Liu, Yanchi Liu, Hui Xiong, "POI Recommendation: A Temporal Matching between POI Popularity and User Regularity." *IEEE Int. Conf. on Data Mining (ICDM)*, 2016. [Full paper]
26. **Zijun Yao**, Yanjie Fu, Bin Liu, Hui Xiong, "The Impact of Community Safety on House Ranking." *SIAM Int. Conf. on Data Mining (SDM)*, 2016.
27. Benjamin Falchuk, Euthimios Panagos, KC Lee, Shoshana Loeb, **Zijun Yao**, "Just-in-time Reconnaissance and Assistance for Video Game Streams and Players." *IEEE Annual Consumer Communications & Networking Conf. (CCNC)*, 2016.

28. Yanjie Fu, Hui Xiong, Yong Ge, Yu Zheng, **Zijun Yao**, Zhi-Hua Zhou, "Modeling of Geographical Dependencies for Real Estate Ranking." *ACM Transactions on Knowledge Discovery from Data (TKDD)*, 2016.
29. Bin Liu, Hui Xiong, Spiros Papadimitriou, Yanjie Fu, **Zijun Yao**, "A General Geographical Probabilistic Factor Model for Point of Interest Recommendation." *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 2015.
30. Yanjie Fu, Yong Ge, Yu Zheng, **Zijun Yao**, Yanchi Liu, Hui Xiong, Nicholas Jing Yuan. "Sparse Real Estate Ranking with Online User Reviews and Offline Moving Behaviors." *IEEE Int. Conf. on Data Mining (ICDM)*, 2014.
31. Yanjie Fu, Hui Xiong, Yong Ge, **Zijun Yao**, Yu Zheng, Zhi-Hua Zhou, "Exploiting Geographic Dependencies for Real Estate Appraisal." *ACM SIGKDD Int. Conf. on Knowledge Discovery and Data Mining (KDD)*, 2014.
32. Yanjie Fu, Bin Liu, Yong Ge, **Zijun Yao**, Hui Xiong, "User Preference Learning with Multiple Information Fusion for Restaurant Recommendation." *SIAM Int. Conf. on Data Mining (SDM)*, 2014.
33. Bin Liu, Yanjie Fu, **Zijun Yao**, Hui Xiong, "Learning Geographical Preferences for Point-of-Interest Recommendation", *ACM SIGKDD Int. Conf. on Knowledge Discovery and Data Mining (KDD)*, 2013.

Archive

1. Zeyan Liu, **Zijun Yao**, Fengjun Li, Bo Luo, "Check Me If You Can: Detecting ChatGPT-Generated Academic Writing using CheckGPT". *arXiv:2306.05524*, 2023.
2. Mohamed Ghalwash, **Zijun Yao**, Prithwish Chakraborty, James Codella, Daby Sow, "ODVICE: An Ontology-Driven Visual Analytic Tool for Interactive Cohort Extraction." *arXiv:2005.06434*, 2021.

SERVICES

Conference Program Committee Member

- International Conference on Learning Representations (ICLR)
- ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD)
- ACM International Conference on Information and Knowledge Management (CIKM)
- AAAI Conference on Artificial Intelligence (AAAI)
- International Joint Conferences on Artificial Intelligence (IJCAI)
- SIAM International Conference on Data Mining (SDM)
- Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD)

Journal Reviewer

- Journal of Biomedical Informatics (JBI)
- IEEE Transactions on Knowledge and Data Engineering (TKDE)
- IEEE Transactions on Neural Networks and Learning Systems (TNNLS)
- IEEE Transactions on Cybernetics
- IEEE Transactions on Big Data (TBD)
- ACM Transactions on Management Information Systems (TMIS)
- ACM Transactions on Intelligent Systems and Technology (TIST)
- Knowledge and Information Systems (KAIS)
- BMC Medical Informatics and Decision Making
- Scientific Reports - Nature