

## Research Interests

Post Training for LLM, LLM as a Judge

## Education

**Emory University**, Atlanta, GA, USA Dec. 2022 – May. 2024  
Ph.D., Department of Computer Science  
Advisor: Prof. Ying Guo & Prof. Carl J. Yang  
Thesis Title: Empower Deep Learning for Brain Network Analysis  
Thesis Committee: Dr. Carl J. Yang (Emory), Dr. Ying Guo (Emory), Dr. Liang Zhao (Emory) and Dr. Xiaoxiao Li (UBC)

**Emory University**, Atlanta, GA, USA Sept 2019 – Dec. 2022  
Master of Science, Department of Computer Science  
Advisor: Prof. Ying Guo & Prof. Carl J. Yang  
GPA: 3.97/4.0

**Tongji University**, Shanghai, CHINA Sept 2014 – Jul 2018  
B.E., School of Software Engineering  
Advisor: Prof. Lin Zhang  
GPA: 4.55/5.0

## Work

**Meta** Menlo Park, CA May 2024 – Current  
Research Scientist @ Monetization GenAI  
Auto Eval and Post Training for Ad Image Regeneration

**Meta**, Seattle, WA, USA June 2023 – Sept 2023  
PhD Software Engineer Intern @ Ads Core ML: Privacy  
Designed and Built the new Mobile App Install model for App Ads Signal Loss Problem.  
Mentor: [Shupeng Gui](#)

**Google**, Remote Oct 2022 – June 2023  
Student Researcher @ Google Federated Assistant Team  
Employed privacy-preserving machine learning (federated learning) and parameter-efficient transfer learning to solve the massive data requirement of ASR models and the substantial communication cost between servers and clients.  
Mentor: [Yonghui Xiao](#), [Tien-Ju Yang](#)

**Meta**, Seattle, WA, USA May 2022 – Aug 2022  
PhD Software Engineer Intern @ Ads Core ML: Privacy  
Worked on building Multi-Task Multi-Label (MTML) Hypergraph Neural Network (HGNN) for Signal Loss Problem.  
Mentor: [Shupeng Gui](#)

**SenseTime Research**, Beijing, CHINA Feb 2019 – Jul 2019  
Research Intern @ Smart City Group  
Accelerating the neural network inference time in mobile devices with Neural Architecture Search (NAS) for stereo matching.  
Mentor: Wukui Yang

**Oxford University**, Oxford, UK April 2017 – May 2018  
Research Intern @ Cyber-Physical Systems Group  
Assisted and finished three projects, from face recognition to liquids intake monitor, each publishing a related paper.  
Mentor: [Chris Xiaoxuan Lu](#)

## Publications

\* indicates equal contribution.

- [MedInfo 2025] **Multimodal Fusion of EHR in Structures and Semantics: Integrating Clinical Records and Notes with Hypergraph and LLM**  
Hejie Cui, Xinyu Fang, Ran Xu, **Xuan Kan**, Joyce C Ho, Carl Yang  
*MedInfo*, 2025
- [IEEE BHI 2024] **Multi-task Learning for Brain Network Analysis in the ABCD study**  
**Xuan Kan**, Hejie Cui, Keqi Han, Ying Guo, Carl Yang  
*The IEEE-EMBS International Conference on Biomedical and Health Informatics (BHI)*, 2024
- [IEEE BHI 2024] **BrainODE: Dynamic Brain Signal Analysis via Graph-Aided Neural Ordinary Differential Equations**  
Kaigao Han, Yi Yang, Zijie Huang, **Xuan Kan**, Yang Yang, Ying Guo, Lifang He, Liang Zhan, Yizhou Sun, Wei Wang, Carl Yang  
*The IEEE-EMBS International Conference on Biomedical and Health Informatics (BHI)*, 2024
- [ISBI 2024] **Convergent Brain Connectome Analysis with Brain Graph Transformers**  
Keqi Han, **Xuan Kan**, Carl Yang  
*IEEE International Symposium on Biomedical Imaging (ISBI)*, 2024
- [arXiv 2024] **Parameter-Efficient Transfer Learning under Federated Learning for Automatic Speech Recognition**  
**Xuan Kan**, Yonghui Xiao, Tien-Ju Yang, Nanxin Chen, Rajiv Mathews  
*arXiv preprint arXiv:2408.11873*, 2024
- [ACL Findings] **Knowledge-Infused Prompting Improves Clinical Text Generation with Large Language Models**  
Ran Xu, Hejie Cui, Yue Yu, **Xuan Kan**, Wenqi Shi, Yuchen Zhuang, Wei Jin, Joyce Ho, Carl Yang  
*The 62nd Annual Meeting of the Association for Computational Linguistics (ACL)*, 2024
- [NeurIPS 2024] **Open Visual Knowledge Extraction via Relation-oriented Multimodality Model Prompting**  
Hejie Cui, Xinyu Fang, Zihan Zhang, Ran Xu, **Xuan Kan**, Xin Liu, Yue Yu, Manling Li, Yangqiu Song, Carl Yang  
*Advances in Neural Information Processing Systems (NeurIPS)*, 2024
- [arXiv 2023] **A Survey on Knowledge Graphs for Healthcare: Resources, Applications, and Promises**  
Hejie Cui, Jiaying Lu, Shiyu Wang, Ran Xu, Wenjing Ma, Shaojun Yu, Yue Yu, **Xuan Kan**, Chen Ling, Joyce Ho  
*arXiv preprint arXiv:2306.04802*, 2023
- [IEEE BHI 2023] **Dynamic Brain Transformer with Multi-level Attention for Functional Brain Network Analysis**  
**Xuan Kan**, Aodong Chen Gu, Hejie Cui, Carl Yang  
*The IEEE-EMBS International Conference on Biomedical and Health Informatics (IEEE BHI)*, 2023
- [KDD 2023] **R-Mixup: Riemannian Mixup for Biological Networks**  
**Xuan Kan**\*, Zimu Li\*, Hejie Cui, Yue Yu, Ran Xu, Shaojun Yu, Zilong Zhang, Ying Guo, Carl Yang  
*ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD)*, 2023
- [ISBI 2023] **Deep dag learning of effective brain connectivity for fmri analysis**  
Yue Yu, **Xuan Kan**, Hejie Cui, Ran Xu, Yujia Zheng, Xiangchen Song, Yanqiao Zhu, Kun Zhang, Razieh Nabi, Ying Guo  
*IEEE 20th International Symposium on Biomedical Imaging (ISBI)*, 2023
- [ISBI 2023] **Transformer-based hierarchical clustering for brain network analysis**  
Wei Dai, Hejie Cui, **Xuan Kan**, Ying Guo, Sanne van Rooij, Carl Yang  
*IEEE 20th International Symposium on Biomedical Imaging (ISBI)*, 2023
- [AAAI 2023] **Neighborhood-regularized Self-Training for Learning with Few Labels**  
Ran Xu, Yue Yu, Hejie Cui, **Xuan Kan**, Yanqiao Zhu, Joyce C. Ho, Chao Zhang, Carl Yang  
*Proceedings of the AAAI International Conference on Artificial Intelligence (AAAI)*, **Oral**, 2023

<b>[IEEE TMI]</b>	<b>BrainGB: A Benchmark for Brain Network Analysis with Graph Neural Networks</b> Hejie Cui, Wei Dai, Yanqiao Zhu, <b>Xuan Kan</b> , Antonio Aodong Chen Gu, Joshua Lukemire, Liang Zhan, Lifang He, Ying Guo, Carl Yang <i>IEEE Transactions on Medical Imaging (TMI)</i> , <b>IF: 11.037</b> , 2022
<b>[NeurIPS 2022]</b>	<b>Brain Network Transformer</b> <b>Xuan Kan</b> , Wei Dai, Hejie Cui, Zilong Zhang, Ying Guo, Carl Yang <i>Proceedings of the Conference on Neural Information Processing Systems (NeurIPS)</i> , <b>Spotlight</b> , 2022
<b>[KDD 2022]</b>	<b>Data-Efficient Brain Connectome Analysis via Multi-Task Meta-Learning</b> Yi Yang*, Yanqiao Zhu*, Hejie Cui, <b>Xuan Kan</b> , Lifang He, Ying Guo, Carl Yang <i>ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD)</i> , 2022
<b>[MIDL 2022]</b>	<b>FBNetGen: Task-aware GNN-based fMRI Analysis via Functional Brain Network Generation</b> <b>Xuan Kan</b> , Hejie Cui, Joshua Lukemire, Ying Guo, Carl Yang <i>International Conference on Medical Imaging with Deep Learning (MIDL)</i> , <b>Oral</b> , 2022
<b>[ECML 2021]</b>	<b>Zero-Shot Scene Graph Relation Prediction through Commonsense Knowledge Integration</b> <b>Xuan Kan</b> , Hejie Cui, Carl Yang <i>The European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML-PKDD)</i> , 2021
<b>[WWW 2019]</b>	<b>AutoTune: Autonomous Learning for Face Recognition in the Wild via Ambient Wireless Cues</b> Xiaoxuan Lu*, <b>Xuan Kan</b> *, Stefano Rosa, Bowen Du, Hongkai Wen, Andrew Markham, Niki Trigoni. <i>The Web Conference 2019, WWW</i> , 2019
<b>[ICDCN 2019]</b>	<b>HydraDoctor: Real-time Liquids Intake Monitoring by Collaborative Sensing</b> Bowen Du, Chris Xiaoxuan Lu, <b>Xuan Kan</b> , Kai Wu, Man Luo, Jianfeng Hou, Kai Li, Salil Kanhere, Yiran Shen, Hongkai Wen <i>Proceedings of the 20th International Conference on Distributed Computing and Networking (ICDCN)</i> , 2019
<b>[CrowdSenSys]</b>	<b>VeriNet: User Verification on Smartwatches via Behavior Biometrics</b> Chris Xiaoxuan Lu, Bowen Du, <b>Xuan Kan</b> , Hongkai Wen, Andrew Markham, Niki Trigoni <i>Proceedings of the First ACM Workshop on Mobile Crowdsensing Systems and Applications (CrowdSenSys)</i> , 2017

## Scholarships, Awards, & Honors

IEEE BHI Travel Award	2023
CIKM Virtual Registration Award	2022
Outstanding Graduates of Tongji University, China	2018
National Scholarship, The Ministry of Education of China	2017
Tongji University Programming Competition (Silver Prize)	2017
China Undergraduate Mathematical Contest in Modeling (Second Prize in National Level)	2016
Android Entrepreneurship Student Challenge by Google Inc. (Sliver Prize)	2016
Tongji University Scholarship for Outstanding Students	2015, 2016

## Academic Services

### Program Committee Member | Reviewer

IEEE Transactions on Knowledge and Data Engineering (TKDE)	2023
The Thirty-sixth Conference on Neural Information Processing Systems (NeurIPS)	2023
The Web Conference (WWW)	2022, 2023
Conference on Artificial Intelligence, Special Track on AI for Social Impact (AAAI)	2023
ACM SIGKDD Conference on Knowledge Discovery and Data Mining (SIGKDD)	2022
SIAM International Conference on Data Mining (SDM)	2022
The Conference on Information and Knowledge Management (CIKM)	2022

IEEE Transactions on Big Data ( <b>Big Data</b> )	2021, 2022
IEEE Transactions on Neural Networks and Learning Systems ( <b>TNNIS</b> )	2022
Interpretable Machine Learning in Healthcare Workshop @ ICML	2021, 2022, 2023
Computer Vision for Automated Medical Diagnosis Workshop @ ICCV	2022

### Workshop Organizer

Neural Networks for Brain Connectome Analysis: Theories, Methods, and Applications Workshop @ IEEE BigData	2022
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### Volunteer

ACM SIGKDD Conference on Knowledge Discovery and Data Mining ( <b>SIGKDD</b> )	2023
The Conference on Information and Knowledge Management ( <b>CIKM</b> )	2022
International Conference on Machine Learning ( <b>ICML</b> )	2021