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ACADEMIC BACKGROUNDS

Department of Computer Science, Emory University *June 2026 - present*
Associate Professor (with Tenure) *Atlanta, GA, US*

- Research interests: data mining, deep learning, multimodality foundation models, trustworthy AI; graph analytics, neuroscience, biomedicine, healthcare.
- Adjunct Professor (courtesy appointment), Department of Biostatistics and Bioinformatics, Rollins School of Public Health (RSPH).
- Adjunct Professor (courtesy appointment), Center for Data Science, Nell Hodgson Woodruff School of Nursing.
- Core Faculty, Emory Global Diabetes Research Center (EGDRC).
- Center Member, Georgia Center for Diabetes Translation Research (GCDTR).
- CS Chair Search Committee, CS Faculty Search Committee, CSI Ph.D. Admission Committee, Dean's Teaching Fellowship Faculty Committee, College Senate and Academic Standards Committee (Natural Science and Mathematics).
- Mentor at the NSF REU/RET in Maths/CS at Emory; Mentor at the KDD Undergraduate Consortium.

School of Computational Science and Engineering, Georgia Institute of Technology *Jul. 2026 - present*
Adjunct Associate Professor *Atlanta, GA, US*

- Work scope: Research collaboration, student mentoring.

Department of Computer Science, Emory University *Aug. 2020 - May 2026*
Tenure-Track Assistant Professor *Atlanta, GA, US*

- Research interests: graph data mining, applied machine learning, knowledge graphs, federated learning; recommender systems, social networks, neuroscience, healthcare.

Intelligent Systems Lab, Oxford University *Apr. 2020 - Mar. 2022*
Postdoctoral Research Fellow (part-time, remote), Supervisor: Thomas Lukasiewicz *Oxford, UK*

- Research interests: multi-modality knowledge extraction, question answering, commonsense reasoning.

Data Mining Group, University of Illinois, Urbana Champaign *Aug. 2014 - Dec. 2020*
Ph.D. in Computer Science, Research Assistant, Teaching Assistant
Committee: Jiawei Han (chair), Jian Peng, Chengxiang Zhai, Jure Leskovec *Urbana, IL, US*

- GPA 3.95/4.0; Research interests: graph data mining, network data science, applied machine learning.
- Thesis: Multi-Facet Graph Mining with Contextualized Projections.

Chu Kochen Honors College, Zhejiang University *Sep. 2010 - Jun. 2014*
B.Eng. in Computer Science & Technology, Advisor: Xiaofei He *Hangzhou, Zhejiang, China*

- GPA: Major: 3.97/4.0, Overall: 3.86/4.0; Ranking: Top 2% of 201 students.

SELECTED HONORS

- **ACSIC Rising Star Award** (sole winner of the year), 2026.
- EGDRC and Woodruff SparkAI Pilot Award, 2026.
- ACM Senior Member.

- IEEE Senior Member.
- **ACM SIGKDD Rising Star Award** (one winner a year across the world), 2025.
- **NIH/CDC 1% Grant Awardee** (Cr. Dr. Hui Shao), 2025.
- **NSF CAREER Award** (No. 2442172), 2025.
- **Best Paper Award** (First Place) of MedInfo, 2025.
- Distinguished Vision Award of KDD Health Day, 2025.
- PennAITech A2 Pilot Award (Cr. Dr. Zhe He), 2025.
- dkNET AI Pilot Award (Cr. Dr. Jin Zhou), 2025.
- Tan Chin Tuan Exchange Fellowship for International Visiting Faculty, 2025.
- Outstanding Associate Editor for IEEE TNNLS, 2024.
- Stanford/Elsevier World's Top 2% Scientists List, 2024.
- EGDRC Doctoral Support Award (Cr. Ran Xu), 2024.
- MCBIOS Young Scientist Excellence Award (Cr. Jiaying Lu), 2024.
- Best Poster Runner-up of SDM Doctoral Forum (Cr. Han Xie), 2024.
- Best Paper Award of KDD-FedKDD, 2024.
- **NIH K25 (Career) Award** (No. K25DK135913), 2023.
- NSF NCS Foundations Award– Lead PI (No. 2319449), 2023.
- NSF IIS/III Core Medium Award– Emory PI (No. 2312502), 2023.
- DARPA AI Forward Scholarship, 2023.
- Microsoft Accelerating Foundation Models Research Award, 2023.
- OpenAI Researcher Access Award, 2023.
- **Best Paper Award** of ML4H, 2022.
- **Best Paper Award** of KDD Health Day, 2022.
- Best Paper Award of CIKM-FedGraph, 2022.
- Amazon Research Award, 2022.
- Emory University Research Committee Award, 2022.
- Halle Global Research Award, 2021.
- **Best Paper Award** of ICDM (1 from 930 submissions), 2020.
- UIUC Doctoral Dissertation Completion Fellowship (at most one per department), 2020.
- Yunni & Maxine Pao Memorial Fellowship for research accomplishments and leadership activities, 2019.

PEER-REVIEWED PUBLICATIONS

Since 2021 (Tenure-Track):

- Mingyang Wei, Dehai Min, Zewen Liu, Yuzhang Xie, Guanchen Wu, Ziyang Zhang, **Carl Yang**, Max SY Lau, Qi He, Lu Cheng, Wei Jin: *EpiQAL: Benchmarking Large Language Models in Epidemiological Question Answering and Reasoning.* Proceedings of the Conference on Empirical Methods in Natural Language Processing (**EMNLP**), 2026.
- Suhao Yu, Haojin Wang, Juncheng Wu, Luyang Luo, Jingshen Wang, Cihang Xie, Pranav Rajpurkar, **Carl Yang**, Yang Yang, Kang Wang, Yannan Yu, Yuyin Zhou: *MedFrameQA: A Multi-Image Medical VQA Benchmark for Clinical Reasoning.* Proceedings of the Conference on Empirical Methods in Natural Language Processing (**EMNLP**), 2026.
- Wenjing Yu, Hang Lv, Furong Wang, Wei Huang, Yanchao Tan, **Carl Yang**: *VERA-Dx: Visual Evidence Reasoning via Multi-Agent Collaboration for Multimodal Diagnosis.* Proceedings of the International Web Information Systems Engineering Conference (**WISE**), 2026.
- Guangji Bai, Zheng Chai, Chen Ling, Shiyu Wang, Jiaying Lu, Nan Zhang, Tingwei Shi, Ziyang Yu, Mengdan Zhu, Yifei Zhang, Xinyuan Song, **Carl Yang**, Yue Cheng, Liang Zhao: *Beyond Efficiency: A Systematic Survey of Resource-Efficient Large Language Models.* ACM Computing Surveys (**CSUR**), 2026.

- Qirui Hao, Kewei Cheng, Xinyu Liu, Hongliang Wang, Junming Shao, **Carl Yang**: *KGMedQA: An Automated and Comprehensive KG-based Benchmark for Biomedical LLM Assessment.* **AI Open**, 2026.
- Zhiling Yan, Rong Zhou, Kai Zhang, Wenting Chen, Yuteng Zeng, Yi Luo, Zhe Fang, Hui Ren, Quanzheng Li, Yixuan Yuan, Tianming Liu, **Carl Yang**, Yong Chen, James Zou, Lifang He, Xiang Li, Lichao Sun: *Evaluating GPT-4V for Multi-modal Medical Applications: A Comparative Study Using Open-source Datasets.* IEEE Transactions on Radiation and Plasma Medical Sciences (**TRPMS**), 2026.
- Hengyu Zhang, Zihao Zhou, Guofeng Ma, Yanchao Tan, Chaochao Chen, **Carl Yang**, Yuyuan Li: *Towards Privacy-Preserving Drug Recommendation via Attribute Unlearning.* **Pattern Recognition**, 2026.
- Wenho Gao, Yifan Wang, Yijia Ma, **Carl Yang**, Wen Li, Chenyu You: *NeuroSonic: Conditional Flow Matching for EEG-to-Speech Reconstruction.* Proceedings of the International Conference on Medical Image Computing and Computer Assisted Intervention (**MICCAI**), 2026.
- Junwei Wu, Hanqi Luo, Darren Liu, Minxiao Wang, Kimberly L. Townsend, Lydia S. Hartwig, Derek Miketinas, Xiao Hu, **Carl Yang**, Runze Yan: *NutriOrion: A Safety-Constrained Multi-Agent AI Framework for Scalable Personalized Nutrition Consultation.* Abstract in the American Society for Nutrition Emerging Leaders in Nutrition Science Poster Competition, 2026.
- Yuzhang Xie, Keqi Han, Yunpeng Xiao, Hejie Cui, Guanchen Wu, Ziyang Zhang, Kai Shu, Jiaying Lu, Xiao Hu, **Carl Yang**: *EHRBench: An Automated and Reliable EHR-based Benchmark for Clinical Decision Making with LLMs.* Proceedings of the ACM International Conference on Knowledge Discovery and Data Mining (**KDD**), 2026.
- Jiahao Liang, **Carl Yang**, Haoran Yang, Zhiwen Yu, Mengzhu Wang, Kaixiang Yang: *Cognitive Bifurcation: Dual-Progressive Causal Diffusion with Hippocampal Memory for Continual Graph Learning.* Proceedings of the ACM International Conference on Knowledge Discovery and Data Mining (**KDD**), 2026.
- Chenglu Pan, Jiarong Xu, **Carl Yang**, Qingbiao Wu, Yang Yang: *Towards Fair and Robust Graph Federated Learning via Incentive Mechanisms.* ACM Transactions on Knowledge Discovery from Data (**TKDD**), 2026.
- Minh H N Le, Thanh-Huy Nguyen, Tao Li, Han H Huynh, Monika Raj, **Carl Yang**, Min Xu, Tuan Vinh, Nguyen Quoc Khanh Le: *Imaging-anchored Multiomics in Cardiovascular Disease: Integrating Cardiac Imaging, Bulk, Single-cell, and Spatial Transcriptomics.* **Briefings in Bioinformatics**, 2026.
- Mingchen Shao, Yuzhang Xie, **Carl Yang**, Jiaying Lu: *LLM-MINE: Large Language Model based Alzheimers Disease and Related Dementias Phenotypes Mining from Clinical Notes.* Proceedings of the American Medical Informatics Association Informatics Summit (**AMIA**), 2026.
- Samuel Jacob Chacko, Balu Bhasuran, Xiao Luo, Dhruv Kale, Karim Hanna, **Carl Yang**, Zhe He: *An Agentic AI Framework for Dynamic Patient Profiling and Laboratory Test Result Interpretation.* Proceedings of the American Medical Informatics Association Informatics Summit (**AMIA**), 2026.
- Huaming Du, Yaling Liu, Cancan Feng, Guisong Liu, **Carl Yang**, Gang Kou: *Why Empirical Risk Minimization Performs Well for Open Set Domain Adaptation: A Theoretical Analysis from Causal View.* IEEE Transactions on Neural Networks and Learning Systems (**TNNLS**), 2026.
- Xusheng Yu, Hang Lv, Guofang Ma, Yanchao Tan, Xing Chen, **Carl Yang**: *SHIELD: Semantic Hierarchy-Enhanced Hypergraph Learning for Diagnosis Prediction.* Proceedings of the IEEE International Conference on Web Services (**ICWS**), 2026.
- Xiaoda Wang, Ching Chang, Defu Cao, Kaiqiao Han, Fang Sun, Yue Huang, Minxiao Wang, Chang Xu, Xiao Luo, Runze Yan, Xiangliang Zhang, Xiao Hu, Yan Liu, Yizhou Sun, Wei Wang, **Carl Yang**: *Position: Beyond Prediction: Toward Verifiable Physiological Waveform Reasoning with Foundation Models and Agentic LLMs.* Proceedings of the International Conference on Machine Learning (**ICML**), 2026.

- Ran Xu, Tianci Liu, Zihan Dong, Tony Yu, Ilgee Hong, **Carl Yang**, Linjun Zhang, Tuo Zhao, Haoyu Wang: *Alternating Reinforcement Learning for Rubric-Based Reward Modeling in Non-Verifiable LLM Post-Training*. Proceedings of the International Conference on Machine Learning (**ICML**), 2026.
- Qingwen Zeng, Dajun Guo, Zhaoge Bi, lining chen, Jushang Qiu, Yitian Yang, **Carl Yang**, Huaming Chen, Ling Chen: *Bootstrapped Exploration with Causal Reasoning: A Training Paradigm for Adaptive Forecasting Agent*. Proceedings of the International Conference on Machine Learning (**ICML**), 2026.
- Khoa Pham, Dang Nguyen, Khanh Le, Heath Rutledge-Jukes, Quan Le, Hung Huynh, Trung Le, Yanwen Xu, Om Yadav, **Carl Yang**, Louise Sun, Phat Huynh, Jacques Kpodonu: *Evidence-Augmented Conformal Risk Control with Verifier-Gated LLM Reporting for Trustworthy ECG Decision Support*. Proceedings of the Annual International Conference of the IEEE Engineering in Medicine and Biology Society (**EMBC**), 2026.
- Tianci Liu, Ran Xu, Tony Yu, Ilgee Hong, **Carl Yang**, Tuo Zhao, Haoyu Wang: *OpenRubrics: Towards Scalable Synthetic Rubric Generation for Reward Modeling and LLM Alignment*. Proceedings of the Annual Meeting of the Association for Computational Linguistics (**ACL**), 2026.
- Ran Xu, Yuchen Zhuang, Yue Yu, Haoyu Wang, Wenqi Shi, **Carl Yang**: *RAG in the Wild: On the (In)effectiveness of LLMs with Mixture-of-Knowledge Retrieval Augmentation*. Findings of the Association for Computational Linguistics: ACL (**ACL-Findings**), 2026.
- Shengbo Gong, Xianfeng Tang, Qi He, **Carl Yang**, Wei Jin: *Beyond Chunks and Graphs: Retrieval-Augmented Generation through Triplet-Driven Thinking*. Findings of the Association for Computational Linguistics: ACL (**ACL-Findings**), 2026.
- Cheng Wang, Yu Jiang, Zhihao Peng, Chenxin Li, Changbae Bang, Lin Zhao, Jinglei Lv, Jorge Sepulcre, **Carl Yang**, Lifang He, Tianming Liu, Daniel Barron, Quanzheng Li, Randy Hirschtick, Byung-Hoon Kim, Xiang Li, Yixuan Yuan: *Towards A General-Purpose Foundation Model for fMRI Analysis*. **Nature Biomedical Engineering**, 2026.
- Hang Lv, Xusheng Yu, Siying Xu, Zixuan Guo, Xing Chen, Yanchao Tan, **Carl Yang**: *Structure-enhanced Multimodal Medical Concept Quantization for Medication Recommendation*. Proceedings of the IEEE International Conference on Multimedia and Expo (**ICME**), 2026.
- Elizabeth Staton, Jieun Lee, Zhiyan Li, Piaopiao Li, **Carl Yang**, Jithin Varghese, Young-Rock Hong, Ilana Graetz, Hui Shao: *Reweighting All of Us Research Program Data to a Nationally Representative Sample: A Novel Machine Learning-Based Approach*. Abstract in the AcademyHealth Annual Research Meeting, 2026.
- Meng Lu, Ran Xu, Yi Fang, Wenxuan Zhang, Yue Yu, Gaurav Srivastava, Yuchen Zhuang, Mohamed Elhoseiny, Charles Fleming, **Carl Yang**, Zhengzhong Tu, Yang Xie, Guanghua Xiao, Di Jin, Wenqi Shi, Xuan Wang: *Scaling Agentic Reinforcement Learning for Tool-Integrated Reasoning in VLMs*. Proceedings of the Conference on Computer Vision and Pattern Recognition (**CVPR**), 2026.
- Xiaoda Wang, Kaiqiao Han, Yuhao Xu, Xiao Luo, Yizhou Sun, Wei Wang, **Carl Yang**: *SE-Diff: Simulator and Experience Enhanced Diffusion Model for Comprehensive ECG Generation*. Proceedings of the International Conference on Learning Representations (**ICLR**), 2026.
- Ran Xu, Yuchen Zhuang, Yishan Zhong, Yue Yu, Zifeng Wang, Xingru Tang, Hang Wu, May Dongmei Wang, Peifeng Ruan, Donghan Yang, Tao Wang, Guanghua Xiao, Xin Liu, **Carl Yang**, Yang Xie, Wenqi Shi: *MedAgentGym: A Scalable Agentic Training Environment for Code-Centric Reasoning in Biomedical Data Science*. Proceedings of the International Conference on Learning Representations (**ICLR**), 2026.
- Ran Xu, Jingjing Chen, Jiayu Ye, Yu Wu, Jun Yan, **Carl Yang**, Hongkun Yu: *Boosting Agentic Reasoning in LLM Judges via Tool-Integrated Reinforcement Learning*. Proceedings of the International Conference on Learning Representations (**ICLR**), 2026.
- Zheng Huang, Enpei Zhang, Yinghao Cai, Weikang Qiu, **Carl Yang**, Elynn Chen, Xiang Zhang, Rex Ying, Dawei Zhou, Yujun Yan: *Seeing Through the Brain: New Insights from Decoding Visual Stimuli with fMRI*. Proceedings of the International Conference on Learning Representations (**ICLR**), 2026.

- Yuzhang Xie, Yuhua Wu, Ruiyu Wang, Fadi Nahab, Xiao Hu, **Carl Yang**: *nhanced Atrial Fibrillation Prediction in ESUS Patients with Hypergraph-based Pre-training.* Proceedings of the American Medical Informatics Association Informatics Summit (**AMIA**), 2026.
- Ruiyu Wang, Tuan Vinh, Ran Xu, Yuyin Zhou, Jiaying Lu, Francisco Pasquel, Mohammed K Ali, **Carl Yang**: *Knowledge Graph Augmented Large Language Models for Disease Prediction.* Proceedings of the American Medical Informatics Association Informatics Summit (**AMIA**), 2026.
- Rongjia Zhou, Chengzhuo Li, **Carl Yang**, Jiaying Lu: *ClinNoteAgents: An LLM Multi-Agent System for Predicting and Interpreting Heart Failure 30-Day Readmission from Clinical Notes.* Proceedings of the American Medical Informatics Association Informatics Summit (**AMIA**), 2026.
- Lihui Liu, **Carl Yang**: *Prompt-tuning with Attribute Guidance for Low-resource Entity Matching.* Proceedings of the Pacific-Asia Conference on Knowledge Discovery and Data Mining (**PAKDD**), 2026.
- Huaming Du, Cancan Feng, Chenyang Zhang, Guisong Liu, Gang Kou, **Carl Yang**, Yu Zhao: *A Comprehensive Survey on Enterprise Financial Risk Analysis from Big Data and LLMs Perspective.* Proceedings of the Pacific-Asia Conference on Knowledge Discovery and Data Mining (**PAKDD**), 2026.
- Yi-Fei Wen, Hang Liang, **Carl Yang**, Wen-Bo Xie, Yajun Du, Xianyong Li, Yan-Li Lee: *Spatio-Temporal Fusion in Graph Neural Network for Streaming Knowledge Tracing.* Proceedings of the International Conference on Database Systems for Advanced Applications (**DASFAA**), 2026.
- Lihui Liu, Jiayuan Ding, Subhabrata Mukherjee, **Carl Yang**: *MixRAG : Mixture-of-Experts Retrieval-Augmented Generation for Textual Graph Understanding and Question Answering.* Proceedings of the International World Wide Web Conference (**WWW**), 2026.
- Qirui Hao, Kewei Cheng, Tongze Zhang, Hongyuan Liu, Junming Shao, **Carl Yang**: *A Unified Framework for Rule Learning: Integrating Commonsense Knowledge from LLMs with Structured Knowledge from Knowledge Graphs.* Proceedings of the International World Wide Web Conference (**WWW**), 2026.
- Huaming Du, Tao Hu, Yijie Huang, Yu Zhao, Guisong Liu, Tao Gu, Gang Kou, **Carl Yang**: *Traceable Latent Variable Discovery Based on Multi-Agent Collaboration.* Proceedings of the International World Wide Web Conference (**WWW**), 2026.
- Yuzhang Xie, Yuhua Wu, Ruiyu Wang, Xiao Hu, **Carl Yang**: *Hypergraph-based Pre-training for Atrial Fibrillation Prediction in ESUS Patients.* Abstract in the International Stroke Conference, 2026.
- Yuzhang Xie, Yuhua Wu, Fadi Nahab, Xiao Hu, **Carl Yang**: *Personalized Blood Pressure Management After Endovascular Thrombectomy in Large Vessel Occlusion Stroke.* Abstract in the International Stroke Conference, 2026.
- Pengxiang Zhan, Binteng Cai, Jinxu Zhang, Hang Lv, Yanchao Tan, Zhigang Lin, Xiping Chen, **Carl Yang**: *CARE-Agent: Multi-Agent Collaboration with Conflict-Aware Routing Mechanism for Diagnosis Prediction.* Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing (**ICASSP**), 2026.
- Kaisong Zhang, Hang Lv, Yanchao Tan, Zhigang Lin, Hengyu Zhang, Xiping Chen, **Carl Yang**: *SHARK: Modeling Semantic Hierarchy of Medical Code via Residual k-means Quantization.* Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing (**ICASSP**), 2026.
- Zixuan Guo, Hang Lv, Yanchao Tan, Zhigang Lin, Hengyu Zhang, Xiping Chen, **Carl Yang**: *Compact Representation Learning for Multimodal Drug-Drug Interaction Event Prediction.* Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing (**ICASSP**), 2026.
- Keqi Han, Yao Su, Songlin Zhao, Charles Gillespie, Boadie Dunlop, Daniel Barron, Randy Hirschtick, Liang Zhan, Lifang He, Xiang Li, **Carl Yang**: *Atlas-Free Functional Brain Connectome Analysis via Task-Driven Parcellation.* Proceedings of the IEEE International Symposium on Biomedical Imaging (**ISBI**), 2026.
- Jingqi Lu, Keqi Han, Yun Wang, Lu Mi, **Carl Yang**: *A Benchmark Analysis of Graph and Non-Graph Methods for Caenorhabditis Elegans Neuron Classification.* Proceedings of the IEEE International

Symposium on Biomedical Imaging (**ISBI**), 2026.

- Keqi Han, Yao Su, Lifang He, Liang Zhan, Sergey Plis, Vince Calhoun, **Carl Yang**: *Rethinking Functional Brain Connectome Analysis: Do Graph Deep Learning Models Help.* **npj Artificial Intelligence**, 2026.
- Minh H N Le, Khanh T Q Le, Tuan Vinh, Thanh-Huy Nguyen, Han H Huynh, Khoa D Pham, Anh Mai Vu, Hien Quang Kha, Phat Ky Nguyen, Ulas Bagci, Min Xu, **Carl Yang**, Phat Kim Huynh, Nguyen Quoc Khanh Le: *Ultra-ECP: Ellipse-Constrained and Point-Robust Foundation Model Adaptation for Fetal Cardiac Ultrasound Segmentation.* Proceedings of the International Conference on Medical Imaging with Deep Learning (**MIDL**), 2026.
- Hengyu Zhang, Xuyun Zhang, Pengxiang Zhan, Linhao Luo, Hang Lv, Yanchao Tan, Shirui Pan, **Carl Yang**: *EviCare: Enhancing Diagnosis Prediction with Deep Model-Guided Evidence for In-Context Reasoning.* Proceedings of the ACM International Conference on Knowledge Discovery and Data Mining (**KDD**), 2026.
- Hang Lv, Zixuan Guo, Yanchao Tan, Wanzi Shao, Hengyu Zhang, **Carl Yang**: *Awaken the Giant: Activating LLMs via Deep Model Guidance for Boundary-aware Medication Recommendation.* Proceedings of the ACM International Conference on Knowledge Discovery and Data Mining (**KDD**), 2026.
- Shengbo Gong, Mohammad Hashemi, Juntong Ni, **Carl Yang**, Wei Jin: *Scalable Graph Condensation with Evolving Capabilities.* Proceedings of the ACM International Conference on Knowledge Discovery and Data Mining (**KDD**), 2026.
- Dongxiao He, Yiqi Dong, Xiaobao Wang, Meng Ge, **Carl Yang**, Di Jin, Witold Pedrycz: *Unveiling Fine-grained Deceptive Patterns in Multi-modal Fake News: A Explainable Neuro-Symbolic Framework.* IEEE Transactions on Pattern Analysis and Machine Intelligence (**TPAMI**), 2026.
- **Carl Yang**, Senjuti Basu Roy, Zhenhui Jessie Li, Jaap Kamps, Meeyoung Cha, Chanyoung Park, Noseong Park: *Report on the 34th ACM Conference on Information and Knowledge Management (CIKM 2025).* The ACM SIGIR Forum, 2025.
- Xincan Feng, Hejie Cui, Kazuki Hayashi, Huy Hien Vu, Kenta Suzuki, Noriki Nishida, Hidetaka Kamigaito, Yuji Matsumoto, Taro Watanabe, **Carl Yang**: *LLMKG+: Systematically Improving Knowledge Quality and Coverage in KGs using LLMs– A Case Study in Medical Domain.* **AI Open**, 2025.
- Huaming Du, Yijie Huang, Su Yao, Yiying Wang, Yueyang Zhou, Jingwen Yang, Jinshi Zhang, Han Ji, Yu Zhao, Guisong Liu, Hegui Zhang, **Carl Yang**, Gang Kou: *Transferable Graph Condensation from the Causal Perspective.* Proceedings of the AAAI International Conference on Artificial Intelligence (**AAAI**), 2025.
- Zongliang Ji, Ziyang Zhang, Xincheng Tan, Mattew Thompson, Anna Goldenberg, **Carl Yang**, Rahul G Krishnan, Fan Zhang: *Dialogue to Question Generation for Evidence-based Medical Guideline Agent Development.* Proceedings of the Machine Learning for Health Symposium (**ML4H**), 2025.
- Guanchen Wu, Zuhui Chen, Yuzhang Xie, **Carl Yang**: *Towards Automatic Evaluation and Selection of PHI De-identification Models via Multi-Agent Collaboration.* Proceedings of the Open Conference of AI Agents for Science (**Agents4Science**), ***Spotlight***, 2025.
- Xiaoda Wang, Yuji Zhao, Kaiqiao Han, Xiao Luo, Sanne van Rooij, Jennifer Stevens, Lifang He, Liang Zhan, Yizhou Sun, Wei Wang, **Carl Yang**: *Conditional Neural ODE for Longitudinal Parkinson?s Disease Progression Forecasting.* Proceedings of the IEEE International Conference on Bioinformatics and Biomedicine (**BIBM**), 2025.
- Ran Xu, Yuchen Zhuang, Zihan Dong, Ruiyu Wang, Yue Yu, Joyce C Ho, Linjun Zhang, Haoyu Wang, Wenqi Shi, **Carl Yang**: *AceSearcher: Bootstrapping Reasoning and Search for LLMs via Reinforced Self-Play.* Proceedings of the Conference on Neural Information Processing Systems (**NeurIPS**), 2025.
- Zitong Shi, Guancheng Wan, Haixin Wang, Ruoyan Li, Zijie Huang, Wanjia Zhao, Yijia Xiao, Xiao Luo, **Carl Yang**, Yizhou Sun, Wei Wang: *Don't Forget the Enjoin: FocalLoRA for Instruction Hierarchical Alignment in Large Language Models.* Proceedings of the Conference on Neural Information Processing Systems (**NeurIPS**), 2025.

- Shengbo Gong, Juntong Ni, Noveen Sachdeva, **Carl Yang**, Wei Jin: *GC4NC: A Benchmark Framework for Graph Condensation on Node Classification with New Insights*. Proceedings of the Conference on Neural Information Processing Systems (**NeurIPS**), 2025.
- Juntong Ni, Saurabh Kataria, Shengpu Tang, **Carl Yang**, Xiao Hu, Wei Jin: *PPG-Distill: Efficient Photoplethysmography Signals Analysis via Foundation Model Distillation*. Workshop on Learning from Time Series for Health: The Conference on Neural Information Processing Systems (**NeurIPS-TS4H**), 2025.
- Yuhao Xu, Xiaoda Wang, Yi Wu, Wei Jin, Xiao Hu, **Carl Yang**: *ECG-MoE: Mixture-of-Expert Electrocardiogram Foundation Model*. Workshop on Learning from Time Series for Health: The Conference on Neural Information Processing Systems (**NeurIPS-TS4H**), 2025.
- Ran Xu, Yuchen Zhuang, Yishan Zhong, Yue Yu, Xingru Tang, Hang Wu, May Dongmei Wang, Peifeng Ruan, Donghan Yang, Tao Wang, Guanghua Xiao, **Carl Yang**, Yang Xie, Wenqi Shi: *MedAgentGym: Training LLM Agents for Code-Based Medical Reasoning at Scale*. Workshop on GenAI for Health: The Conference on Neural Information Processing Systems (**NeurIPS-GenAI4Health**), 2025.
- Victoria Yan, Honor Chotkowski, Fengran Wang, Xinhui Li, **Carl Yang**, Jiaying Lu, Runze Yan, Xiao Hu, Alex Fedorov: *Towards Synthesizing Normative Data for Cognitive Assessments Using Generative Multimodal Large Language Models*. Workshop on GenAI for Health: The Conference on Neural Information Processing Systems (**NeurIPS-GenAI4Health**), 2025.
- Runze Yan, Hanqi Luo, Jiaying Lu, Darren Liu, Hannah Posluszny, Mehak Dhaliwal, Janice MacLeod, Yao Qin, **Carl Yang**, Terry Hartman, Xiao Hu: *DietAI24: A Framework for Comprehensive Nutrition Estimation using Multimodal Large Language Models*. **Communications Medicine**, 2025.
- Pareeta Kotecha, William Troy Donahoo, Naykky Singh Ospina, Anu Sharma, Ramon Sun, **Carl Yang**, Jiang Bian, Jingchuan Guo: *Preoperative GLP-1 RA Use and Postoperative Respiratory Complications in Patients Undergoing Elective Surgeries: A Target Trial Emulation Study*. American Journal of Respiratory and Critical Care Medicine (**AJRCCM**), 2025.
- Tuan Vinh, Tao Li, **Carl Yang**, Monika Raj: *Beyond Prediction: AI as a Creative Partner in Organic Synthesis*. **Synlett**, 2025.
- Meiyu Lin, Haichuan Zhang, Jiale Lao, Renyuan Li, Yuanchun Zhou, **Carl Yang**, Yang Cao, Mingjie Tang: *Are Your LLM-based Text-to-SQL Models Secure? Exploring SQL Injection via Backdoor Attacks*. Proceedings of the ACM International Conference on Management of Data (**SIGMOD**), 2025.
- Yanchao Tan, Hang Lv, Pengxiang Zhan, Shiping Wang, **Carl Yang**: *Graph-oriented Instruction Tuning of Large Language Models for Generic Graph Mining*. IEEE Transactions on Pattern Analysis and Machine Intelligence (**TPAMI**), 2025.
- Ran Xu, Kaixin Ma, Wenhao Yu, Hongming Zhang, Joyce C Ho, **Carl Yang**, Dong Yu: *Retrieval-augmented GUI Agents with Generative Guidelines*. Proceedings of the Conference on Empirical Methods in Natural Language Processing (**EMNLP**), 2025.
- Huaming Du, Lei Yuan, Guisong Liu, **Carl Yang**, Gang Kou: *Explainable Text Classification with LLMs: Enhancing Performance through Dialectical Prompting and Explanation-Guided Training*. Proceedings of the Conference on Empirical Methods in Natural Language Processing (**EMNLP**), 2025.
- Jiachen Zhou, Han Xie, **Carl Yang**: *Graph Personalized Federated Learning via Client Network Learning*. Transactions on Machine Learning Research (**TMLR**), 2025.
- Yuzhang Xie, Xu Han, Ran Xu, Xiao Hu, Jiaying Lu, **Carl Yang**: *HypKG: Hypergraph-based Knowledge Graph Contextualization for Precision Healthcare*. Proceedings of the International Semantic Web Conference (**ISWC**), 2025.
- Ran Xu, Wenqi Shi, Yuchen Zhuang, Yue Yu, Joyce C Ho, Haoyu Wang, **Carl Yang**: *Collab-RAG: Boosting Retrieval-Augmented Generation for Complex Question Answering via White-Box and Black-Box LLM Collaboration*. Proceedings of the Conference on Language Modeling (**COLM**), 2025.
- Hang Lv, Zixuan Guo, Zijie Wu, Yanchao Tan, Guofang Ma, Zhigang Lin, Xiping Chen, Hong Cheng, **Carl Yang**: *MedAlign: Enhancing Combinatorial Medication Recommendation with Multi-modality Alignment*. Proceedings of the ACM International Conference on Multimedia (**ACMMM**), 2025.

- Yuzhang Xie, Hejie Cui, Ziyang Zhang, Jiaying Lu, Kai Shu, Fadi Nahab, Xiao Hu, **Carl Yang**: *KERAP: A Knowledge-Enhanced Reasoning Approach for Accurate Zero-shot Diagnosis Prediction Using Multi-agent LLMs.* Proceedings of the American Medical Informatics Association Annual Summit (**AMIA**), 2025.
- Yuhao Xu, Xiaoda Wang, Jiaying Lu, Sirui Ding, Defu Cao, Huaxiu Yao, Yan Liu, Xiao Hu, **Carl Yang**: *EnECG: Efficient Ensemble Learning for Electrocardiogram Multi-task Foundation Models.* Proceedings of the American Medical Informatics Association Annual Summit (**AMIA**), 2025.
- Hejie Cui, Jiaying Lu, Ran Xu, Shiyu Wang, Wenjing Ma, Yue Yu, Shaojun Yu, Xuan Kan, Chen Ling, Liang Zhao, Zhaohui S Qin, Joyce C Ho, Tianfan Fu, Jing Ma, Mengdi Huai, Fei Wang, **Carl Yang**: *A Review on Knowledge Graphs for Healthcare: Resources, Applications, and Promises.* Journal of Biomedical Informatics (**JBI**), 2025.
- Chen Ling, Xujiang Zhao, Jiaying Lu, Chengyuan Deng, Can Zheng, Junxiang Wang, Tanmoy Chowdhury, Yun Li, Hejie Cui, Xuchao Zhang, Tianjiao Zhao, Amit Panalkar, Dhagash Mehta, Stefano Pasquali, Wei Cheng, Haoyu Wang, Yanchi Liu, Zhengzhang Chen, Haifeng Chen, Chris White, Quanquan Gu, Jian Pei, **Carl Yang**, Liang Zhao: *Domain Specialization as the Key to Make Large Language Models Disruptive: A Comprehensive Survey.* ACM Computing Surveys (**CSUR**), 2025.
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- Han Xie, Li Xiong, **Carl Yang**: *Federated Node Classification over Graphs with Latent Link-type Heterogeneity*. Proceedings of the International World Wide Web Conference (**WWW**), ***Best Paper Award of 2022 CIKM-FedGraph Workshop***, 2023.
- Yue Yu, Xuan Kan, Hejie Cui, Ran Xu, Yujia Zheng, Xiangchen Song, Kun Zhang, Razieh Nabi, Ying Guo, Chao Zhang, **Carl Yang**: *Deep DAG Learning towards Effective Brain Connectivity for fMRI Analysis*. Proceedings of the IEEE International Symposium on Biomedical Imaging (**ISBI**), 2023.
- Wei Dai, Hejie Cui, Xuan Kan, Ying Guo, Sanne van Rooij, **Carl Yang**: *Transformer Based Hierarchical Clustering On Brain Networks*. Proceedings of the IEEE International Symposium on Biomedical Imaging (**ISBI**), 2023.
- Ran Xu, Mohammed K Ali, Joyce C Ho, **Carl Yang**: *Hypergraph Transformers for EHR-based Clinical Predictions*. Proceedings of the American Medical Informatics Association Informatics Summit (**AMIA**), 2023.
- Ran Xu, Yue Yu, Hejie Cui, Xuan Kan, Yanqiao Zhu, Chao Zhang, Joyce C Ho, **Carl Yang**: *Neighborhood-Regularized Self-Training for Label-Efficient Learning*. Proceedings of the AAAI International Conference on Artificial Intelligence (**AAAI**), 2023.
- Zishan Gu, Ke Zhang, Guangji Bai, Liang Chen, Liang Zhao, **Carl Yang**: *Dynamic Activation of Clients and Parameters for Federated Learning over Heterogeneous Graphs*. Proceedings of the IEEE International Conference on Data Engineering (**ICDE**), 2023.
- **Carl Yang**, Jiawei Han: *Revisiting Citation Prediction with Cluster-Aware Text-Enhanced Heterogeneous Graph Neural Networks*. Proceedings of the IEEE International Conference on Data Engineering (**ICDE**), 2023.
- Dong Chen, Yueting Zhuang, Zijin Shen, **Carl Yang**, Guoming Wang, Siliang Tang, Yi Yang: *Cross-modal Data Augmentation for Tasks of Different Modalities*. IEEE Transactions on Multimedia (**TMM**), 2022.
- **Carl Yang**, Xiaoxiao Li, Qingyu Zhao: *The 1st International Workshop on Neural Network Models for Brain Connectome Analysis (BrainNN2022)*. Proceedings of the IEEE International Conference on Big Data (**BigData**), 2022.

- Ran Xu, Yue Yu, Chao Zhang, Mohammed K Ali, Joyce C Ho, **Carl Yang**: *Counterfactual and Factual Reasoning over Hypergraphs for Interpretable Clinical Predictions on EHR*. Proceedings of the Machine Learning for Health Symposium (**ML4H**), ***Best Paper Award***, 2022.
- Xuan Kan, Wei Dai, Hejie Cui, Zilong Zhang, Ying Guo, **Carl Yang**: *Brain Network Transformer*. Proceedings of the Conference on Neural Information Processing Systems (**NeurIPS**), 2022.
- Qi Zhu, Chao Zhang, Chanyoung Park, **Carl Yang**, Jiawei Han: *Shift-Robust Node Classification via Graph Clustering Co-training*. Workshop on New Frontiers in Graph Learning: The Conference on Neural Information Processing Systems (**NeurIPS-GLFrontiers**), 2022.
- Hejie Cui, Wei Dai, Yanqiao Zhu, Xuan Kan, Antonio Aodong Chen Gu, Joshua Lukemire, Liang Zhan, Lifang He, Ying Guo, **Carl Yang**: *BrainGB: A Benchmark for Brain Network Analysis with Graph Neural Networks*. IEEE Transactions on Medical Imaging (**TMI**), 2022.
- Gongxu Luo, Chenyang Li, Hejie Cui, Lichao Sun, Lifang He, **Carl Yang**: *Multi-View Brain Network Analysis with Cross-View Missing Network Generation*. Proceedings of the IEEE International Conference on Bioinformatics and Biomedicine (**BIBM**), 2022.
- Kai Zhang, Yu Wang, Hongyi Wang, Lifu Huang, **Carl Yang**, Xun Chen, Lichao Sun: *Efficient Federated Learning on Knowledge Graphs via Privacy-preserving Relation Embedding Aggregation*. Findings of the Association for Computational Linguistics: EMNLP (**EMNLP-Findings**), 2022.
- Jiaying Lu, **Carl Yang**: *Open-World Taxonomy and Knowledge Graph Co-Learning*. Proceedings of the Conference on Automated Knowledge Base Construction (**AKBC**), 2022.
- Xiaolin Zheng, Yanchao Tan, Yan Wang, Xiangyu Wei, Shengjia Zhang, Chaochao Chen, Longfei Li, **Carl Yang**: *Finding High-quality Item Attributes for Recommendation*. IEEE Transactions on Knowledge and Data Engineering (**TKDE**), 2022.
- Hejie Cui, Zijie Lu, Pan Li, **Carl Yang**: *On Positional and Structural Node Features for Graph Neural Networks on Non-Attributed Graphs*. Proceedings of the ACM International Conference on Information and Knowledge Management (**CIKM**), ***Most Influential CIKM Paper of 2022***, 2022.
- **Carl Yang**, Xiaoxiao Li, Nathalie Baracaldo, Neil Shah, Chaoyang He, Lingjuan Lyu, Lichao Sun, Salman Avestimehr: *The 1st International Workshop on Federated Learning with Graph Data (FedGraph)*. Proceedings of the ACM International Conference on Information and Knowledge Management (**CIKM**), 2022.
- Ke Zhang, Han Xie, Zishan Gu, Xiaoxiao Li, Lichao Sun, Siu Ming Yiu, Yuan Yao, **Carl Yang**: *Subgraph Federated Learning over Heterogeneous Graphs*. Workshop on Federated Learning with Graph Data: The ACM International Conference on Information and Knowledge Management (**CIKM-FedGraph**), 2022.
- Shuang Wu, Mingxuan Zhang, Yuantong Li, **Carl Yang**, Pan Li: *Graph Federated Learning with Hidden Representation Sharing*. Workshop on Federated Learning with Graph Data: The ACM International Conference on Information and Knowledge Management (**CIKM-FedGraph**), 2022.
- Yanchao Tan, **Carl Yang**, Xiangyu Wei, Ziyue Wu, Weiming Liu, Xiaolin Zheng: *Partial Relaxed Optimal Transport for Denoised Recommendation*. Workshop on Deep Learning for Search and Recommendation: The ACM International Conference on Information and Knowledge Management (**CIKM-DL4SR**), 2022.
- Hejie Cui, Wei Dai, Yanqiao Zhu, Xiaoxiao Li, Lifang He, **Carl Yang**: *Interpretable Graph Neural Networks for Connectome-Based Brain Disorder Analysis*. Proceedings of the International Conference on Medical Image Computing and Computer Assisted Intervention (**MICCAI**), 2022.
- **Carl Yang**, Hongwen Song, Mingyue Tang, Leon Danon, Ymir Vigfusson: *Dynamic Network Anomaly Modeling of Cell-Phone Call Detail Records for Infectious Disease Surveillance*. Proceedings of the ACM International Conference on Knowledge Discovery and Data Mining (**KDD**), ***Best Paper Award of Health Day***, 2022.
- Yanchao Tan, Chengjun Kong, Leisheng Yu, Pan Li, Chaochao Chen, Xiaolin Zheng, Vicki Hertzberg, **Carl Yang**: *4SDrug: Symptom-based Set-to-set Small and Safe Drug Recommendation*. Proceedings of the ACM International Conference on Knowledge Discovery and Data Mining (**KDD**), 2022.

- Yi Yang, Yanqiao Zhu, Hejie Cui, Xuan Kan, Lifang He, **Carl Yang**: *Data-Efficient Brain Connectome Analysis via Multi-Task Meta-Learning.* Proceedings of the ACM International Conference on Knowledge Discovery and Data Mining (**KDD**), 2022.
- Junru Chen, Yang Yang, Tao Yu, Yingying Fan, Xiaolong Mo, **Carl Yang**: *BrainNet: Epileptic Wave Detection from SEEG with Hierarchical Graph Diffusion Learning.* Proceedings of the ACM International Conference on Knowledge Discovery and Data Mining (**KDD**), 2022.
- Yu Shi, Fangqiu Han, Xinwei He, Xinran He, **Carl Yang**, Jie Luo, Jiawei Han: *mvn2vec: Preservation and Collaboration in Multi-View Network Embedding.* Workshop on Mining and Learning with Graphs: The ACM International Conference on Knowledge Discovery and Data Mining (**KDD-MLG**), 2022 (arXiv, 2018).
- Lichao Sun, Yingtong Dou, **Carl Yang**, Ji Wang, Philip Yu, Lifang He, Bo Li: *Adversarial Attack and Defense on Graph Data: A Survey.* IEEE Transactions on Knowledge and Data Engineering (**TKDE**), 2022 (arXiv, 2018).
- Yuanxin Zhuang, Lingjuan Lyu, Chuan Shi, **Carl Yang**, Lichao Sun: *Data-Free Adversarial Knowledge Distillation for Graph Neural Networks.* Proceedings of the International Joint Conference on Artificial Intelligence (**IJCAI**), 2022.
- Yuxin Xiao, Zecheng Zhang, Yuning Mao, **Carl Yang**, Jiawei Han: *SAIS: Supervising and Augmenting Intermediate Steps for Document-Level Relation Extraction.* Proceedings of the Annual Conference of the North American Chapter of the Association for Computational Linguistics (**NAACL**), ***Oral***, 2022.
- Yanqiao Zhu, Hejie Cui, Lifang He, Lichao Sun, **Carl Yang**: *Joint Embedding of Structural and Functional Brain Networks with Graph Neural Networks for Mental Illness Diagnosis.* Proceedings of the Annual International Conference of the IEEE Engineering in Medicine and Biology Society (**EMBC**), 2022.
- Yanchao Tan, **Carl Yang**, Xiangyu Wei, Chaochao Chen, Weiming Liu, Longfei Li, Jun Zhou and Xiaolin Zheng: *MetaCare++: Meta-Learning with Hierarchical Subtyping for Cold-Start Diagnosis Prediction in Healthcare Data*, Proceedings of the ACM International Conference on Research and Development in Information Retrieval (**SIGIR**), 2022.
- Xuan Kan, Hejie Cui, Ying Guo, **Carl Yang**: *FBNetGen: Task-aware GNN-based fMRI Analysis via Functional Brain Network Generation.* Proceedings of the International Conference on Medical Imaging with Deep Learning (**MIDL**), 2022.
- **Carl Yang**, Mingyue Tang, Pan Li: *Graph Auto-Encoder via Neighborhood Wasserstein Reconstruction.* Proceedings of the International Conference on Learning Representations (**ICLR**), 2022.
- Yiqing Xie, Zhen Wang, **Carl Yang**, Yaliang Li, Bolin Ding, Hongbo Deng, Jiawei Han: *KoMen: Domain Knowledge Guided Interaction Recommendation for Emerging Scenarios.* Proceedings of the International World Wide Web Conference (**WWW**), 2022.
- Zhaoming Kong, Aditya Kendre, Jun Yu, Hao Peng, **Carl Yang**, Lichao Sun, Alex Leow, Lifang He: *Structure-Preserving Graph Kernel for Brain Network Classification.* Proceedings of the the IEEE International Symposium on Biomedical Imaging (**ISBI**), 2022.
- Yanqiao Zhu, Yichen Xu, Hejie Cui, **Carl Yang**, Qiang Liu, Shu Wu: *Structure-Enhanced Heterogeneous Graph Contrastive Learning.* Proceedings of the SIAM International Conference on Data Mining (**SDM**), 2022.
- Hejie Cui, Jiaying Lu, Yao Ge, **Carl Yang**: *How Can Graph Neural Networks Help Document Retrieval: A Case Study on CORD19 with Concept Map Generation.* Proceedings of the European Conference on Information Retrieval (**ECIR**), 2022.
- Yanchao Tan, **Carl Yang**, Xiangyu Wei, Chaochao Chen, Longfei Li, Xiaolin Zheng: *Enhancing Recommendation with Automated Tag Taxonomy Construction in Hyperbolic Space.* Proceedings of the IEEE International Conference on Data Engineering (**ICDE**), 2022.
- Ke Zhang, **Carl Yang**, Xiaoxiao Li, Lichao Sun, Siu Ming Yiu: *Subgraph Federated Learning with Missing Neighbor Generation.* Proceedings of the Conference on Neural Information Processing Systems (**NeurIPS**), ***Spotlight***, 2021.

- Han Xie, Jing Ma, Li Xiong, **Carl Yang**: *Federated Graph Classification over Non-IID Graphs*, Proceedings of the Conference on Neural Information Processing Systems (**NeurIPS**), 2021.
- **Carl Yang**, Qi Zhu, Yidan Xu, Haonan Wang, Chao Zhang, Jiawei Han: *Transfer Learning of Graph Neural Networks with Ego-graph Information Maximization*. Proceedings of the Conference on Neural Information Processing Systems (**NeurIPS**), 2021.
- Jamie Cui, Chaochao Chen, Lingjuan Lyu, **Carl Yang**, Wang Li: *Exploiting Data Sparsity in Secure Cross-Platform Social Recommendation*. Proceedings of the Conference on Neural Information Processing Systems (**NeurIPS**), 2021.
- Chaoyang He, Keshav Balasubramanian, Emir Ceyani, **Carl Yang**, Han Xie, Lichao Sun, Lifang He, Liangwei Yang, Philip S. Yu, Yu Rong, Peilin Zhao, Junzhou Huang, Murali Annavaram, Salman Avestimehr: *FedGraphNN: A Federated Learning System and Benchmark for Graph Neural Networks*. Workshop on Distributed and Private Machine Learning: The International Conference on Learning Representations (**ICLR-DPML**); Workshop on Graph Neural Networks and Systems: The Conference on Machine Learning and Systems (**MLSys-GNNSys**), 2021.
- Di Jin, Zhizhi Yu, Dongxiao He, Carl Yang, Philip S. Yu, Jiawei Han: *GCN for HIN via Implicit Utilization of Attention and Meta-paths*. IEEE Transactions on Knowledge and Data Engineering (**TKDE**), 2021.
- Chen Ling, **Carl Yang**, Liang Zhao: *Deep Generation of Heterogeneous Networks*. Proceedings of the IEEE International Conference on Data Mining (**ICDM**), 2021.
- Sai Vidyaranya Nuthalapati, Ramraj Chandradevan, Eleonora Giunchiglia, Bowen Li, Maxime Kayser, Thomas Lukasiewicz, **Carl Yang**: *Lightweight Visual Question Answering using Scene Graphs*. Proceedings of the ACM International Conference on Information and Knowledge Management (**CIKM**), 2021.
- Xuan Kan, Hejie Cui, **Carl Yang**: *Zero-Shot Scene Graph Relation Prediction through Commonsense Knowledge Integration*. Proceedings of the European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (**ECML-PKDD**), 2021.
- **Carl Yang**, Haonan Wang, Ke Zhang, Liang Chen, Lichao Sun: *Secure Deep Graph Generation with Link Differential Privacy*. Proceedings of the International Joint Conference on Artificial Intelligence (**IJCAI**), 2021.
- Gongxu Luo, Hao Peng, Jianxin Li, Lichao Sun, **Carl Yang**, Philip Yu, Lifang He: *Graph Entropy Guided Node Embedding Dimension Selection for Graph Neural Networks*. Proceedings of the International Joint Conference on Artificial Intelligence (**IJCAI**), 2021.
- Liang Chen, Jintang Li, Qibiao Peng, Yang Liu, Zibin Zheng, **Carl Yang**: *Understanding Structural Vulnerability in Graph Convolutional Networks*. Proceedings of the International Joint Conference on Artificial Intelligence (**IJCAI**), 2021.
- Haonan Wang, Chang Zhou, **Carl Yang**, Hongxia Yang, Jingrui He: *Controllable Gradient Item Retrieval*. Proceedings of the International World Wide Web Conference (**WWW**), 2021.
- Wenjie Hu, Yang Yang, Ziqiang Cheng, **Carl Yang**, Xiang Ren: *Time-Series Event Prediction with Evolutionary State Graph*. Proceedings of the ACM International Conference on Web Search and Data Mining (**WSDM**), 2021.
- Yuanzhen Xie, Zijing Ou, Liang Chen, Yang Liu, Kun Xu, **Carl Yang**, Zibin Zheng: *Learning and Updating Node Embedding on Dynamic Heterogeneous Information Network*. Proceedings of the ACM International Conference on Web Search and Data Mining (**WSDM**), 2021.
- Yanchao Tan, **Carl Yang**, Xiangyu Wei, Yun Ma, Xiaolin Zheng: *Multi-Facet Recommender Networks with Spherical Optimization*. Proceedings of the IEEE International Conference on Data Engineering (**ICDE**), 2021.

Before 2021 (Ph.D. Graduation):

- **Carl Yang**: *Multi-Facet Graph Mining with Contextualized Projections*. Graduate Dissertations and Theses at Illinois, 2020.

- **Carl Yang**, Jieyu Zhang, Jiawei Han: *Co-Embedding Network Nodes and Hierarchical Labels with Taxonomy Based Generative Adversarial Nets.* Proceedings of the IEEE International Conference on Data Mining (**ICDM**), ***Best Paper Award***, 2020.
- **Carl Yang**, Yuxin Xiao, Yu Zhang, Yizhou Sun, Jiawei Han: *Heterogeneous Network Representation Learning: A Unified Framework with Survey and Benchmark.* IEEE Transactions on Knowledge and Data Engineering (**TKDE**), 2020.
- **Carl Yang**, Aditya Pal, Andrew Zhai, Nickil Pancha, Jure Leskovec, Jiawei Han: *MultiSage: Empowering GCN with Contextualized Multi-Embeddings on Web-Scale Multipartite Networks.* Proceedings of the ACM International Conference on Knowledge Discovery and Data Mining (**KDD**), 2020.
- **Carl Yang**, Jieyu Zhang, Haonan Wang, Bangzheng Li, Jiawei Han: *Neural Concept Map Generation for Effective Document Classification with Interpretable Structured Summarization.* Proceedings of the ACM International Conference on Research and Development in Information Retrieval (**SIGIR**), 2020.
- **Carl Yang**, Jieyu Zhang, Haonan Wang, Sha Li, Myunghwan Kim, Matthew Walker, Yiou Xiao, Jiawei Han: *Relation Learning on Social Networks with Multi-Modal Graph Edge Variational Autoencoders.* Proceedings of the ACM International Conference on Web Search and Data Mining (**WSDM**), 2020.
- **Carl Yang**, Liyuan Liu, Mengxiong Liu, Zongyi Wang, Chao Zhang, Jiawei Han: *Graph Clustering with Embedding Propagation.* Proceedings of the IEEE International Conference on Big Data (**BigData**), 2020 (arXiv, 2017).
- **Carl Yang**, Peiye Zhuang, Wenhan Shi, Alan Luu, Pan Li: *Conditional Structure Generation through Graph Variational Generative Adversarial Nets.* Proceedings of the Conference on Neural Information Processing Systems (**NeurIPS**), 2019.
- **Carl Yang**, Mengxiong Liu, Frank He, Jian Peng, Jiawei Han: *cube2net: Efficient Quality Network Construction with Data Cube Organization.* Doctoral Forum of the IEEE International Conference on Data Mining (**ICDM**), 2019.
- **Carl Yang**, Jieyu Zhang, Jiawei Han: *Neural Embedding Propagation on Heterogeneous Networks.* Proceedings of the IEEE International Conference on Data Mining (**ICDM**), 2019.
- **Carl Yang**, Lingrui Gan, Zongyi Wang, Jiaming Shen, Jinfeng Xiao, Jiawei Han: *Query-Specific Knowledge Summarization with Entity Evolutionary Networks.* Proceedings of the ACM International Conference on Information and Knowledge Management (**CIKM**), 2019.
- **Carl Yang**, Dai Teng, Siyang Liu, Sayantani Basu, Jieyu Zhang, Jiaming Shen, Chao Zhang, Jingbo Shang, Lance Kaplan, Timothy Harratty, Jiawei Han: *CubeNet: Multi-Facet Hierarchical Heterogeneous Network Construction, Analysis, and Mining.* Demo in the ACM International Conference on Knowledge Discovery and Data Mining (**KDD**), 2019.
- **Carl Yang**, Do Huy Hoang, Tomas Mikolov, Jiawei Han: *Place Deduplication with Embeddings.* Proceedings of the International World Wide Web Conference (**WWW**), 2019.
- **Carl Yang**, Kevin Chang: *Relationship Profiling over Social Networks: Reverse Smoothness from Similarity to Closeness.* Proceedings of the SIAM International Conference on Data Mining (**SDM**), 2019.
- **Carl Yang**, Yichen Feng, Pan Li, Yu Shi, Jiawei Han: *Meta-Graph Based HIN Spectral Embedding: Methods, Analyses and Insights.* Proceedings of the IEEE International Conference on Data Mining (**ICDM**), 2018.
- **Carl Yang**, Mengxiong Liu, Frank He, Xikun Zhang, Jian Peng, Jiawei Han: *Similarity Modeling on Heterogeneous Networks via Automatic Path Discovery.* Proceedings of the European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (**ECML-PKDD**), 2018.
- **Carl Yang**, Mengxiong Liu, Vincent Zheng, Jiawei Han: *Node, Motif and Subgraph: Leveraging Network Functional Blocks Through Structural Convolution.* Proceedings of the IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (**ASONAM**), 2018.
- **Carl Yang**, Xiaolin Shi, Jie Luo, Jiawei Han: *I Know You'll Be Back: Interpretable New User Clustering and Churn Prediction on a Mobile Social Application.* Proceedings of the ACM International

Conference on Knowledge Discovery and Data Mining (**KDD**), 2018.

- **Carl Yang**, Chao Zhang, Xuewen Chen, Jieping Ye, Jiawei Han: *Did You Enjoy the Ride: Understanding Passenger Experience via Heterogeneous Network Embedding.* Proceedings of the IEEE International Conference on Data Engineering (**ICDE**), 2018.
- **Carl Yang**, Hanqing Lu, Kevin Chang: *CONE: Community Oriented Network Embedding.* Proceedings of the International Joint Conference on Neural Networks (**IJCNN**), 2018 (arXiv, 2017).
- **Carl Yang**, Lanxiao Bai, Chao Zhang, Quan Yuan, Jiawei Han: *Bridging Collaborative Filtering and Semi-Supervised Learning: A Neural Approach for POI Recommendation.* Proceedings of the ACM International Conference on Knowledge Discovery and Data Mining (**KDD**), 2017.
- **Carl Yang**, Zhong Lin, Li-Jia Li, Jie Luo: *Bi-directional Joint Inference for User Links and Attributes on Large Social Graphs.* Proceedings of the International World Wide Web Conference (**WWW**), 2017.
- **Ji Yang**, Bin Xu, Binbin Lin, Xiaofei He: *Multi-Query Parallel Field Ranking for Image Retrieval.* Neurocomputing, 2014.
- Yingkui Wang, Di Jin, **Carl Yang**, Jianwu Dang: *Integrating Group Homophily and Individual Personality of Topics Can Better Model Network Communities.* Proceedings of the IEEE International Conference on Data Mining (**ICDM**) 2020.
- Chanyoung Park, **Carl Yang**, Qi Zhu, Donghyun Kim, Hwanjo Yu, Jiawei Han: *Unsupervised Differentiable Multi-aspect Node Representation Learning.* Proceedings of the ACM International Conference on Knowledge Discovery and Data Mining (**KDD**), 2020.
- Yang Liu, Xianzhuo Xia, Liang Chen, Xiangnan He, **Carl Yang**, Zibin Zheng: *Certifiable Robustness to Discrete Adversarial Perturbations for Factorization Machines.* Proceedings of the ACM International Conference on Research and Development in Information Retrieval (**SIGIR**), 2020.
- Yiqing Xie, Sha Li, **Carl Yang**, Raymond Chi-Wing Wong, Jiawei Han: *When Do GNNs Work: Understanding and Improving Neighborhood Aggregation.* Proceedings of the International Joint Conference on Artificial Intelligence (**IJCAI**), 2020.
- Jiayi Liu, Quan Yuan, **Carl Yang**, He Huang, Chao Zhang, Philip Yu: *DAPred: Dynamic Attention Location Prediction with Long-Short Term Movement Regularity.* Proceedings of the AAAI International Conference on Innovative Applications of Artificial Intelligence (**IAAI**), 2020.
- Yuxin Xiao, Zecheng Zhang, **Carl Yang**, ChengXiang Zhai: *Non-local Attention Learning on Large Heterogeneous Information Networks.* Proceedings of the IEEE International Conference on Big Data (**BigData**), 2019.
- Aravind Sankar, Adit Krishnan, Zongjian He, **Carl Yang**: *RASE: Relationship Aware Social Embedding.* Proceedings of the International Joint Conference on Neural Networks (**IJCNN**), 2019.
- Yu Shi, Xinwei He, Naijing Zhang, **Carl Yang**, Jiawei Han: *User-Guided Clustering in Heterogeneous Information Networks via Motif-Based Comprehensive Transcription.* Proceedings of the European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (**ECML-PKDD**), 2019.
- Jiaming Shen, Jinfeng Xiao, Yu Zhang, **Carl Yang**, Jingbo Shang, Jinda Han, Saurabh Sinha, Peipei Ping, Richard Weinshilboum, Zhiyong Lu, Jiawei Han: *SetSearch+: Entity-Set-Aware Search and Mining for Scientific Literature.* Demo in the ACM International Conference on Knowledge Discovery and Data Mining (**KDD**), 2018.
- Chao Zhang, Mengxiong Liu, Zhengchao, Liu, **Carl Yang**, Luming Zhang, Jiawei Han: Spatiotemporal Activity Modeling Under Data Scarcity: A Graph-Regularized Cross-Modal Embedding Approach. Proceedings of the AAAI International Conference on Artificial Intelligence (**AAAI**), 2018.
- Binbin Lin, **Ji Yang**, Xiaofei He, Jieping Ye: *Geodesic Distance Function Learning via Heat Flows on Vector Fields.* Proceedings of the International Conference on Machine Learning (**ICML**), 2014.
- Haifeng Liu, Zheng Yang, **Ji Yang**, Zhaohui Wu, Xuelong Li: *Local Coordinate Concept Factorization for Image Representation.* IEEE Transactions on Neural Networks and Learning Systems (**TNNLS**), 2014.

TEACHING EXPERIENCES

- **Instructor**, CS444 Deep Learning, Emory University, 2025 Fall.
- **Instructor**, CS485 Topics in Computer Science: Deep Learning, Emory University, 2024 Fall.
- **Instructor**, CS253 Data Structures and Algorithms, Emory University, 2023 Fall.
- **Instructor**, CS570 Data Mining, Emory University, 2023 Spring.
- **Instructor**, CS253 Data Structures and Algorithms, Emory University, 2022 Fall.
- **Instructor**, CS570 Data Mining, Emory University, 2022 Spring.
- **Instructor**, CS253 Data Structures and Algorithms, Emory University, 2021 Fall.
- **Instructor**, CS253 Data Structures and Algorithms, Emory University, 2021 Spring.
- **Instructor**, CS584 Topics: Graph Data Mining, Emory University, 2020 Fall.
- **Teaching Assistant**, CS412: Introduction to Data Mining, UIUC/Coursera, 2020 Spring.
- **Lead Teaching Assistant**, CS512: Data Mining: Principles and Algorithms, UIUC, 2019 Spring.
- **Lead Teaching Assistant**, CS512: Data Mining: Principles and Algorithms, UIUC, 2018 Spring.
- **Lead Teaching Assistant**, CS412: Introduction to Data Mining, UIUC, 2017 Spring.
- **Teaching Assistant**, CS511: Advanced Data Management, UIUC, 2016 Spring.
- **Teaching Assistant**, CS412: Introduction to Data Mining, UIUC, 2015 Fall.

SERVICES AND ACTIVITIES

Event Organizations

- Sponsorship Chair, The ACM International Conference on Web Search and Data Mining (**WSDM**), 2027.
- Program Chair, IEEE International Workshop on Machine Learning for Signal Processing (**MLSP**), 2026.
- Demo Chair, The IEEE International Conference on Data Mining (**ICDM**), 2026.
- Inaugural Program Chair, AI for Sciences, The ACM International Conference on Knowledge Discovery and Data Mining (**KDD**), 2026.
- Chair-Elect, Knowledge Discovery and Data Mining Working Group (**KDDM**), The American Medical Informatics Association Annual Summit (**AMIA**), 2026.
- Organizer, Ordinary Differential Equation (ODE)-based Brain Connectomics Workshop, NSF Institute for Mathematical and Statistical Innovation (**IMSI**), 2026.
- Track Chair, Large Language Model in Data Science, The Pacific-Asia Conference on Knowledge Discovery and Data Mining (**PAKDD**), 2026.
- Program Chair, The ACM International Conference on Information and Knowledge Management (**CIKM**), 2025.
- Organizer, The International Forum on Biomedical Informatics, Data Science, and AI, 2025.
- Local Chair, Knowledge Discovery and Data Mining Workshop (**KDDM**), The American Medical Informatics Association Annual Summit (**AMIA**), 2025.
- Special Session Chair, LLM-Empowered Data and Knowledge Ecosystem for Healthcare, The IEEE-EMBS International Conference on Biomedical and Health Informatics (**BHI**).
- Track Chair, Knowledge Graph and Large Language Model, The IEEE International Conference on Knowledge Graph (**ICKG**), 2025.
- Organizer of Health Day, The ACM International Conference on Knowledge Discovery and Data Mining (**KDD**), 2025.
- Social Media and Publicity Chair, The ACM International Conference on Knowledge Discovery and Data Mining (**KDD**), 2024-2025.
- Lead Organizer and General Chair, The 2024 International Joint Workshop on Federated Learning for Data Mining and Graph Analytics (**FedKDD**), 2024-2025.

- AnalytiCup Chair, The ACM International Conference on Information and Knowledge Management (**CIKM**), 2024.
- Lead Organizer and General Chair, The 2023 IEEE International Workshop on Federated Learning with Graph Data (**FedGraph**), 2022-2023.
- Proceedings Chair, The ACM International Conference on Information and Knowledge Management (**CIKM**), 2023.
- KDD Cup Chair, The ACM International Conference on Knowledge Discovery and Data Mining (**KDD**), 2023.
- Track Chair, The Conference on Health, Inference, and Learning (**CHIL**), 2023.
- Lead Organizer and General Chair, The 2022 ACM International Workshop on Federated Learning with Graph Data (**FedGraph**), 2022.
- Lead Organizer and General Chair, The 2022 IEEE International Workshop on Neural Network Models for Brain Connectome Analysis (**BrainNN**), 2022.
- Workshop Chair, The ACM International Conference on Information and Knowledge Management (**CIKM**), 2022.
- Web Chair, The ACM International Conference on Knowledge Discovery and Data Mining (**KDD**), 2022.
- Session Chair, The ACM Conference on Knowledge Discovery and Data Mining (**KDD**), 2025.
- Session Chair, The International World Wide Web Conference (**WWW**), 2025.
- Session Chair, The ACM Conference on Knowledge Discovery and Data Mining (**KDD**), 2024.
- Session Chair, The ACM International Conference on Information and Knowledge Management (**CIKM**), 2023.
- Session Chair, The ACM Conference on Knowledge Discovery and Data Mining (**KDD**), 2023.
- Session Chair, The IEEE International Conference on Data Engineering (**ICDE**), 2023.
- Session Chair, The ACM International Conference on Information and Knowledge Management (**CIKM**), 2022.
- Session Chair, The International World Wide Web Conference (**WWW**), 2022.
- Session Chair, The ACM Conference on Knowledge Discovery and Data Mining (**KDD**), 2021.
- Session Chair, The IEEE International Conference on Data Engineering (**ICDE**), 2021.
- Session Chair, The International World Wide Web Conference (**WWW**), 2021.
- Session Chair, The IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (**ASONAM**), 2018.

Conference (Senior) Program Committees

- The International Conference on Computer Vision (**ICCV**), since 2025.
- The Conference on Computer Vision and Pattern Recognition (**CVPR**), since 2025.
- The American Medical Informatics Association Annual Summit (**AMIA**), since 2025.
- The International Conference on Artificial Intelligence and Statistics (**AISTATS**), since 2024.
- The Annual Meeting of the Association for Computational Linguistics (**ACL**), since 2024.
- The Conference on Empirical Methods in Natural Language Processing (**EMNLP**), since 2024.
- The Annual Conference of the North American Chapter of the Association for Computational Linguistics (**NAACL**), since 2024.
- The ACM International Conference on Multimedia (**ACMMM**), since 2024.
- The International Conference on Machine Learning (**ICML**), since 2024.
- The Pacific Symposium on Biocomputing (**PSB**), since 2024.
- The International Conference on Medical Image Computing and Computer Assisted Intervention (**MICCAI**), since 2023.
- The Conference on Health, Inference, and Learning (**CHIL**), since 2023.

- The ACM International Conference on Research and Development in Information Retrieval (**SIGIR**), since 2023.
- The International Conference on Learning Representations (**ICLR**), since 2022.
- The IEEE International Conference on Data Engineering (**ICDE**), since 2021.
- The IEEE International Conference on Data Mining (**ICDM**), since 2021.
- The Conference on Neural Information Processing Systems (**NeurIPS**), since 2020.
- The ACM International Conference on Web Search and Data Mining (**WSDM**), since 2020.
- The AAAI Conference on Artificial Intelligence (**AAAI**), since 2019.
- The International Joint Conference on Artificial Intelligence (**IJCAI**), since 2019.
- The ACM Conference on Knowledge Discovery and Data Mining (**KDD**), since 2018.
- The International World Wide Web Conference (**WWW**), since 2018.
- The SIAM International Conference on Data Mining (**SDM**), since 2018.
- The European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (**ECML-PKDD**), since 2017.
- The ACM International Conference on Information and Knowledge Management (**CIKM**), since 2017.

Editorial Boards

- Associate Editor, ACM Computing Surveys (**CSUR**), since 2026.
- Associate Editor, ACM Transactions on Knowledge Discovery from Data (**TKDD**), since 2024.
- Associate Editor, ACM Transactions on Computing for Healthcare (**HEALTH**), since 2024.
- Associate Editor, IEEE Transactions on Neural Networks and Learning Systems (**TNNLS**), 2022-2026.
- Associate Editor, Big Data Journal, Mary Ann Liebert, Inc., 2021-2026.
- Associate Editor, IEEE Transactions on Big Data (**TBD**), 2021-2025.
- Guest Editor, Physiological Measurement, 2024-2025.
- Guest Editor, Frontiers in Big Data and Artificial Intelligence, 2021-2022.

Journal Reviews

- Medical Image Analysis, Elsevier, since 2026.
- Imaging Neuroscience, MIT Press, since 2026.
- Communications Medicine, Nature, since 2025.
- Journal of the American Medical Informatics Association (**JAMIA**), since 2025.
- Patterns, Cell Press, since 2025.
- The IEEE Transactions on Biomedical Engineering (**TBME**), since 2025.
- Nature Machine Intelligence, since 2024.
- Nature Communications, since 2024.
- Scientific Data, Nature, since 2024.
- National Science Review, Oxford Academic, since 2024.
- ACM Computing Surveys, since 2024.
- The IEEE Transactions on Pattern Analysis and Machine Intelligence (**TPAMI**), since 2024.
- The IEEE Transactions on Medical Imaging (**TMI**), since 2024.
- The IEEE Transactions on Computational Biology and Bioinformatics (**TCBB**), since 2024.
- The IEEE Transactions on Computational Social Systems (**TCSS**), since 2024.
- Neurocomputing, Elsevier, since 2024.
- Scientific Reports, Nature, since 2024.
- World Wide Web: Internet and Web Information Systems, Springer, since 2024.
- Psychiatry Research, Elsevier, since 2023.
- Medical Image Analysis, Elsevier, since 2023.
- The IEEE Journal of Biomedical and Health Informatics (**JBHI**), since 2023.

- Bioinformatics, Oxford Academic, since 2022.
- The IEEE Transactions on Network Science and Enginieering (**TNSE**), since 2020.
- The IEEE Transactions on Big Data (**TBD**), since 2019.
- The ACM Transactions on Information Systems (**TOIS**), since 2019.
- The ACM Transactions on Intelligent Systems and Technology (**TIST**), since 2019.
- The IEEE Multidisciplinary Open Access Journal (**Access**), since 2018.
- The IEEE Transactions on Knowledge and Data Engineering (**TKDE**), since 2018.
- The IEEE Transactions on Neural Networks and Learning Systems (**TNNLS**), since 2017.

Grant Reviews

- Emory University Research Committee (URC), since 2021.
- National Science Foundation (NSF), since 2021.

Research Talks

- Guest lecture, Duke-NUS AI & Applications Boot Camp, Singapore, June 2026.
- Invited talk, NIDDK "Rising Minds" Early-Career Investigator Symposium at ADA Scientific Sessions, Louisiana, USA, June 2026.
- Invited talk, DAIS Distinguished Alumni Seminar, University of Illinois, Urbana Champaign, Illinois, USA, March 2026.
- Invited talk, School of CSE Seminar Series, College of Computing, Georgia Tech, Georgia, USA, February 2026.
- Invited talk, Hipprocratic AI External Speaker, California, USA, February 2026.
- Invited talk, OpenKG Annual Symposium 2026, virtual, January 2026.
- Keynote, Workshop on Trustworthy Agent AI, AAAI 2026, Singapore, January 2026.
- Keynote, Singapore ACM SIGKDD Symposium, Singapore, January 2026.
- Keynote, Workshop on Advancing Data for Better Health, BIBM 2025, virtual, December 2025.
- Invited talk, International Forum on Biomedical Informatics, Data Science, and AI, Georgia, USA, November 2025.
- Invited talk, Department of Biomedical Informatics, Emory School of Medicine, Georgia, USA, October 2025.
- Invited talk, Emory Global Diabetes Research Center of the Woodruff Health Sciences Center, Georgia, USA, September 2025.
- Bluesky talk, KDD 2025 Health Day, Ontario, Canada, August 2025.
- Tutorial on Unifying Large Language Models and Knowledge Graphs for Medicine and Healthcare, KDD 2025, Ontario, Canada, August 2025.
- Tan Chin Tuan Seminar, Nanyang Technological University, Singapore, June 2025.
- Invited talk, Health Day of DASFAA 2025, Singapore, May 2025.
- Invited talks, School of Computer Science and School of Biomedical Engineering, University of Sydney, New South Wales, Australia, May 2025.
- Tutorial on Integrating Large Language Models and Knowledge Graphs for Next-level AGI, WWW 2025, New South Wales, Australia, May 2025.
- Tutorial on Graph Learning for Dynamic Brain Network Analysis, ISBI 2025, Texas, USA, April 2025.
- Invited talks, National University of Singapore, Nanyang Technological University, and Singapore Management University, Singapore, March 2025.
- Invited talk, David Geffen School of Medicine, UCLA, California, USA, January 2025.
- Invited talk, Department of Computer Science, Brigham Young University, Utah, USA, January 2025.
- Flash talk, NIH AI in Precision Medicine Workshop, Maryland, USA, November 2024.
- Perspective talk, NIH CFDE 2024 Fall Meeting, Maryland, USA, October 2024.
- Invited talk, AI for Healthcare Invited Talk Series, UT Austin, Texas, USA, September 2024.

- Invited talk, School of CSE Seminar Series, Georgia Tech, Georgia, USA, September 2024.
- Keynote, Deep Learning and Large Language Models for Knowledge Graphs Workshop, KDD 2024, Spain, August 2024.
- Invited talk, 2024 IMSI Workshop on Challenges in Neuroimaging Data Analysis, Illinois, USA, August 2024.
- Invited talk, Data Science & Artificial Intelligence Laboratory, KAIST, Korea, July 2024.
- Invited talk, IEEE Seminar Series, Lehigh Valley Section, Pennsylvania, USA, June 2024.
- Tutorial on GNNs for Brain Connectome Analysis, ISBI 2024, Greece, June 2024.
- Invited talk, AMIA KDDM Webinar, Floria, USA, April 2024.
- Invited talk, NSF CREST Dynamic Multiscale & Multimodal Brain Mapping across the Lifespan (D-MAP) Center, Georgia, USA, April 2024.
- Keynote, Asia Conference on Cognitive Engineering and Intelligent Interaction (CEII2023), Hong Kong, China, December 2023.
- Invited talk, Department of Computer Science, University of Oxford, UK, October 2023.
- Invited talk, School of Informatics, University of Edinburgh, UK, October 2023.
- Keynote, International Workshop on Federated Learning for Distributed Data Mining, KDD 2023, California, USA, August 2023.
- Invited talk, Digital and Data Science Group, Kaiser Permanente, Georgia, USA, April 2023.
- Invited talk, ScAi Lab, University of California, Los Angeles, California, USA, April 2023.
- Guest lecture, Trustworthy Machine Learning Class, Yale University, Connecticut, USA, March 2023.
- Invited talk, Data Science Team, Home Depot Headquarter, Georgia, USA, March 2023.
- Invited talk, Natural Language Processing Laboratory, Nara Institute of Science and Technology, Japan, December 2022.
- Invited talk, Secchia Center, Michigan State University, Michigan, USA, November 2022.
- Invited talk, Rollins School of Public Health, Emory University, Georgia, USA, October 2022.
- Invited talk, Nell Hodgson Woodruff School of Nursing, Emory University, Georgia, USA, September 2022.
- Invited talk, The Computational Neuroimage Science (CNS) Lab, Stanford University, California, USA, May 2022.
- Invited talk, Data Science for Mental Health Group, Alan Turing Institution, London, UK, March 2022.
- Invited talk, Weill Cornell Medical College, Cornell University, New York, USA, February 2022.
- Invited talk, Department of Computer Science, Purdue University, Indiana, USA, November 2021.
- Invited talk, DGL User Group, California, USA, November 2021.
- Amazon ML Tech Talk, Washington, USA, October 2021.
- Invited talk, Information Theory and Machine Learning (vITAL) Research Lab, University of South California, California, USA, July 2021.
- Invited talk, School of Computer Science, University of Sydney, New South Wales, Australia, March 2020.
- Invited talk, Department of Computer Science, University of Florida, Florida, USA, March 2020.
- Invited talk, School of Computing Science, Simon Fraser University, British Columbia, Canada, February 2020.
- Invited talk, Department of Computer Science, Emory University, Georgia, USA, February 2020.
- Invited talk, College of Computer Science and Technology, Zhejiang University, Zhejiang, China, January 2020.
- Invited talk, Department of Computer Science, University of British Columbia, British Columbia, Canada, December 2019.
- Invited talk, Center for Science of Science and Innovation (CSSI), Northwestern University, Illinois, USA, November 2019.

- Invited talk, Great Lakes Workshop on Data Science, University of Notre Dame, Indiana, USA, September 2019.
- Invited talks, Fudan University and Shanghai Jiao Tong University, Shanghai, China, November 2018.
- Invited talk, Snap Research, Snap Inc., California, USA, March 2018.
- Invited talk, Tsinghua University and University of Science and Technology, Beijing, China, August 2017.

INDUSTRIAL EXPERIENCES

Research & DeepMind, Google LLC *Feb. 2024 - Aug. 2024*
Visiting Faculty Researcher, Supervisors: Dr. Yi Liang, Dr. Michael Bendersky *New York, NY, US*

- Participated in and advised on the development and evaluations of several graph-enhanced LLMs such as regarding efficient distillation, aligned reward, logical planning and diversified search.

Research Lab, Pinterest Inc *May. 2019 - Aug. 2019*
Research Intern, Supervisors: Dr. Aditya Pal, Prof. Jure Leskovec *San Francisco, CA, US*

- Empowered GraphSage for web-scale Pinterest graph embedding through efficient graph down-sampling and context-aware conditional aggregation on heterogeneous pin-board networks.

Places Data & AI Research, Facebook Inc. *May. 2018 - Aug. 2018*
Research Intern, Supervisors: Dr. Do Huy Hoang, Dr. Tomas Mikolov *New York, NY, US*

- Developed a two-step data-driven pipeline of feature generation and metric learning for place embedding to leverage ad-hoc place attributes and noisy training data towards efficient place deduplication.

Economic Graph Research, LinkedIn Co. *Aug. 2018 - Jul. 2019*
Remote Research Contractor, Supervisors: Dr. Myungwan Kim, Dr. Shipeng Yu *Sunnyvale, CA, US*

- Developed a relation profiling algorithm based on multiple signals including user attributes, link structures and diffusive messages in the social network with novel multi-modal graph autoencoders.

Big Data Research, Didichuxing Inc. *Jun. 2017 - Aug. 2017*
Research Intern, Supervisors: Prof. Xuewen Chen, Prof. Jieping Ye *Beijing, China*

- Constructed the transportation HIN (heterogeneous information network) based on DiDi's unique travel data and developed a pattern-aware HIN embedding algorithm for passenger experience prediction.

Research Lab, Snap Inc. *May. 2016 - Aug. 2016*
Research Intern, Supervisors: Dr. Jie Luo, Dr. Xiaolin Shi, Dr. Li-Jia Li *Los Angeles, CA, US*

- Developed a joint learning framework of user links and attributes for friend recommendation and interest targeting. Implemented a Spark pipeline and scaled up to millions of nodes and billions of edges.

Demographics ads serving, Google LLC *May. 2015 - Aug. 2015*
Software Engineer Intern, Supervisor: Dr. Tianyi Wu *Seattle, WA, US*

- Implemented data extraction and inventory analysis pipeline using flume C++. Implemented an online simulation of ads serving and an offline optimal algorithm based on max flow to analyze the inventory.