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## ACADEMIC BACKGROUNDS

**Department of Computer Science, Emory University** — *Aug. 2020 - present*
*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.
- Assistant Professor (courtesy appointment), Department of Biostatistics and Bioinformatics, Rollins School of Public Health (RSPH).
- Assistant 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 Faculty Search Committee, CSI Ph.D. Admission Committee, Dean's Teaching Fellowship Faculty Committee, Academic Standards Committee (Natural Science and Mathematics).
- Mentor at the NSF REU/RET in Maths/CS at Emory; Mentor at the KDD Undergraduate Consortium.

**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.
- KDD 2021 Dissertation Award Nomination (9 world-wide).

**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

- Tan Chin Tuan Exchange Fellowship for International Visiting Faculty, 2025.
- NIH K25 Award (No. K25DK135913), 2023.
- NSF IIS/III Core Medium Award (No. 2312502), 2023.
- NSF NCS Foundations Award (No. 2319449), 2023.
- Microsoft Accelerating Foundation Models Research Award, 2023.
- OpenAI Researcher Access Award, 2023.
- DARPA AI Forward Scholarship, 2023.
- Amazon Research Award, 2022.
- Emory URC Award, 2022.
- Halle Global Research Award, 2021.
- UIUC Doctoral Dissertation Completion Fellowship (at most 1 per department), 2020.
- Yunni & Maxine Pao Memorial Fellowship for research accomplishments and leadership activities, 2019.

- Outstanding Associate Editor for IEEE TNNLS, 2024.
- MCBIOS Young Scientist Excellence Award (Cr. Jiaying Lu), 2024.
- SDM Doctoral Forum Best Poster Runner-up (Cr. Han Xie), 2024.
- Best Paper Award of KDD-FedKDD, 2024.
- Best Paper Award of ML4H, 2022.
- Best Paper Award of KDD Health Day, 2022.
- Best Paper Award of CIKM-FedGraph, 2022.
- Best Paper Award of ICDM (1 from 930 submissions), 2020.

## PEER-REVIEWED PUBLICATIONS

### Since 2021 (Tenure-Track):

- Wenxi Huang, Yuru Zhu, Stephen E Kimmel, Mustafa M Ahmed, Steven M Smith, Yao An Li, **Carl Yang**, Jiang Bian, Yong Cheng, Jingchuan Guo: *Effect of Neighborhood Deprivation on Racial Disparities in Heart Failure Outcomes Using A Counterfactual Framework.* Journal of American College of Cardiology: Advances (**JACC: Advances**), 2025.

- Jiawei Nie, Keqi Han, Tianyi Zhang, Chenyu You, Sanne van Rooij, Jennifer Stevens, Boadie Dunlop, Charles Gillespie, **Carl Yang**: *Brain Network State Transformer: Leveraging State Functional Connectivity for Enhanced Brain Network Analysis.* Proceedings of the Annual International Conference of the IEEE Engineering in Medicine and Biology Society (**EMBC**), 2025.

- Xinpeng Wang, Rong Zhou, Han Xie, Xiaoying Tang, Lifang He, **Carl Yang**: *ClusMFL: A Cluster-Enhanced Framework for Modality-Incomplete Multimodal Federated Learning in Brain Imaging Analysis.* Proceedings of the Annual International Conference of the IEEE Engineering in Medicine and Biology Society (**EMBC**), 2025.

- Tianyi Zhang, Keqi Han, Jiawei Nie, Chenyu You, Sanne van Rooij, Jennifer Stevens, Boadie Dunlop, Charles Gillespie, **Carl Yang**: *Causal Brain Connectivity: Integrating Granger Directed Graphs in fMRI Analysis.* Proceedings of the International Conference of Artificial Intelligence in Medicine (**AIME**), 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.* Late-Breaking Abstract in the Organization for Human Brain Mapping Annual Meeting (**OHBM**), 2025.

- Keqi Han, Yao Su, Songlin Zhao, Charles Gillespie, Boadie Dunlop, Randy Hirschtick, Daniel Barron, Liang Zhan, Lifang He, Xiang Li, **Carl Yang**: *Atlas-Free Functional Brain Connectome Analysis via Task-Driven Parcellation.* Late-Breaking Abstract in the Organization for Human Brain Mapping Annual Meeting (**OHBM**), 2025.

- Cheng Wang, Yu Jiang, Zhihao Peng, Chenxin Li, Changbei Bang, **Carl Yang**, Lifang He, Daniel Barron, Randy Hirschtick, Byung-Hoon Kim, Xiang Li, Yixuan Yuan: *Towards A General-Purpose Foundation Model for fMRI Analysis.* Late-Breaking Abstract in the Organization for Human Brain Mapping Annual Meeting (**OHBM**), 2025.

- Xiaoyu Wang, Haoyong Ouyang, Balu Bhasuran, Xiao Luo, Karim Hanna, Mia Liza A Lustria, **Carl Yang**, Zhe He: *Lab-AI: Using Retrieval Augmentation to Enhance Language Models for Personalized Lab Test Interpretation in Clinical Medicine.* Proceedings of the IEEE International Conference on Healthcare Informatics (**ICHI**), 2025.

- Ziyang Zhang, Lily Wang, Weimin Meng, Chang Liu, Hui Shao, Yan Sun, Jingchuan Guo, Jiang Bian, Rui Yin, **Carl Yang**: *Type 2 Diabetes Subtyping via Phenotype and Genotype Co-Learning.* Proceedings of the World Congress on Medical and Health Informatics (**MedInfo**), 2025.

- Guanchen Wu, Linzhi Zheng, Han Xie, Zhen Xiang, Jiaying Lu, Darren Liu, Delgersuren Bold, Bo Li, Xiao Hu, **Carl Yang**: *Large Language Model Empowered Privacy-Protected Framework for PHI*

*Annotation in Clinical Notes.* Proceedings of the World Congress on Medical and Health Informatics (**MedInfo**), 2025.

- Yuhao Xu, Jiaying Lu, Sirui Ding, Defu Cao, Xiao Hu, **Carl Yang**: *Are Foundation Models Useful for Electrocardiogram Analysis? A Multi-task Benchmark with Comprehensive Evaluations and Insightful Findings.* Proceedings of the World Congress on Medical and Health Informatics (**MedInfo**), 2025.

- Hejie Cui, Xinyu Fang, Ran Xu, Xuan Kan, Joyce C Ho, **Carl Yang**: *Multimodal Fusion of EHR in Structures and Semantics: Integrating Clinical Records and Notes with Hypergraph and LLM.* Proceedings of the World Congress on Medical and Health Informatics (**MedInfo**), 2025.

- Yanchao Tan, Jie Zhang, Jiamin Zhuang, Guofeng Ma, **Carl Yang**: *Medical Retrieval-Augmentation Generation Framework for Healthcare Prediction.* Proceedings of the World Congress on Medical and Health Informatics (**MedInfo**), 2025.

- Mingchen Shao, Youjeong Kang, Xiao Hu, Hyunjung Gloria Kwak, **Carl Yang**, Jiaying Lu: *Mining Social Determinants of Health for Heart Failure Patient 30-Day Readmission via Large Language Model.* Proceedings of the World Congress on Medical and Health Informatics (**MedInfo**), 2025.

- **Carl Yang**, Guancheng Wan, Zhuangdi Zhu, Zheng Xu, Junyuan Hong, Nathalie Baracaldo, Neil Shah, Salman Avestimehr, Jiayu Zhou: *FedKDD 2025: The International Joint Workshop on Federated Learning for Data Mining and Graph Analytics.* Proceedings of the ACM International Conference on Knowledge Discovery and Data Mining (**KDD**), 2025.

- Balu Bhasuran, Qiao Jin, Yuzhang Xie, **Carl Yang**, Karim Hanna, Jennifer Costa, Cindy Shavor, Zhiyong Lu, Zhe He: *Preliminary Analysis of the Impact of Lab Results on Large Language Model Generated Differential Diagnoses.* **npj Digital Medicine**, 2025.

- Zihan Tan, Guancheng Wan, Wenke Huang, Guibin Zhang, He Li, **Carl Yang**, Mang Ye: *FedSPA: Generalizable Federated Graph Learning under Homophily Heterogeneity.* Proceedings of the Conference on Computer Vision and Pattern Recognition (**CVPR**), 2025.

- **Carl Yang**, Ran Xu, Linhao Luo, Shirui Pan: *Knowledge Graph and Large Language Model Co-learning via Structure-oriented Retrieval Augmented Generation.* **IEEE Data Engineering Bulletin**, 2025.

- Ran Xu, Hui Liu, Sreyashi Nag, Zhenwei Dai, Yaochen Xie, Xianfeng Tang, Chen Luo, Yang Li, Joyce C Ho, **Carl Yang**, Qi He: *Self-Improving Retrieval-Augmented Generation: Adapting Large Language Models to Domain-Specific QA.* Proceedings of the Annual Conference of the North American Chapter of the Association for Computational Linguistics (**NAACL**), 2025.

- Sungwon Kim, Yoonho Lee, Yunhak Oh, Namkyeong Lee, Sukwon Yun, Junseok Lee, Sein Kim, **Carl Yang**, Chanyoung Park: *Subgraph Federated Learning for Local Generalization.* Proceedings of the International Conference on Learning Representations (**ICLR**), ***Oral***, ***Best Paper Award of 2024 KDD-FedKDD Workshop***, 2025.

- Linhao Luo, **Carl Yang**, Shirui Pan: *Integrating Large Language Models and Knowledge Graphs for Next-level AGI.* Tutorial at the International World Wide Web Conference (**WWW**), 2025.

- Ran Xu, Wenqi Shi, Jonathan Wang, Jasmine Zhou, **Carl Yang**: *MedAssist: LLM-Empowered Medical Assistant for Assisting the Scrutinization and Comprehension of Electronic Health Records.* Demo at the International World Wide Web Conference (**WWW**), 2025.

- Bo Xiong, Jiaying Lu, Yuqicheng Zhu, **Carl Yang**: *MaSH: Maximal Separating Poincaré Hyperplanes for Hierarchical Imbalanced Learning.* Companion Proceedings of the International World Wide Web Conference (**WWW**), 2025.

- Yanchao Tan, Wanzi Shao, Guofang Ma, **Carl Yang**: *Large Language Model Empowered Logical Relations Mining for Personalized Recommendation.* Companion Proceedings of the International World Wide Web Conference (**WWW**), 2025.

- Shu Niu, Dawei Guan, **Carl Yang**, Chang Su, Yan Sun, Xin Hu, Mohammed K Ali, Vivian Fonseca, Lizheng Shi, Mikael Svensson, Hui Shao: *Capturing the Additional Cardiovascular Benefits of SGLT2 Inhibitors and GLP-1 Receptor Agonists Beyond the Control of Traditional Risk Factors in People with Diabetes.* **Value in Health**, 2025.

- Emir Ceyani, Han Xie, Baturalp Buyukates, **Carl Yang**, Salman Avestimehr: *FedGrAINS: Personalized SubGraph Federated Learning with AdaptIve Neighbor Sampling.* Proceedings of the SIAM International Conference on Data Mining (**SDM**), 2025.

- Haoran Wang, Aman Rangapur, Xiongxiao Xu, Yueqing Liang, Haroon Gharwi, **Carl Yang**, Kai Shu: *Piecing It All Together: Verifying Multi-Hop Multimodal Claims.* Proceedings of the International Conference on Computational Linguistics (**COLING**), 2025.

- Xiao Luo, Junyu Luo, Huiyu Jiang, Hang Zhou, Zhiping Xiao, Wei Ju, **Carl Yang**, Ming Zhang, Yizhou Sun: *Future Matters for Present: Towards Effective Physical Simulation over Meshes.* Proceedings of the ACM International Conference on Knowledge Discovery and Data Mining (**KDD**), 2025.

- Yuxuan Cao, Jiarong Xu, Chen Zhao, Jiaan Wang, **Carl Yang**, Chunping Wang, Yang Yang: *How to use Graph Data in the Wild to Help Graph Anomaly Detection?.* Proceedings of the ACM International Conference on Knowledge Discovery and Data Mining (**KDD**), 2025.

- Yuanchen Bei, Weizhi Chen, Hao Chen, Sheng Zhou, **Carl Yang**, Jiapei Fan, Longtao Huang, Jiajun Bu: *Correlation-Aware Graph Convolutional Networks for Multi-Label Node Classification.* Proceedings of the ACM International Conference on Knowledge Discovery and Data Mining (**KDD**), 2025.

- Yu Song, Haitao Mao, Jiachen Xiao, Jingzhe Liu, Zhikai Chen, Wei Jin, **Carl Yang**, Jiliang Tang, Hui Liu: *A Pure Transformer Pretraining Framework on Text-attributed Graphs.* Proceedings of the Learning on Graphs Conference (**LoG**), 2024.

- Yuzhang Xie, Fadi Nahab, Yi Ge, Yuhua Wu, Jessica Sauman, **Carl Yang**, Xiao Hu: *Prediction of Post-Stroke AF in ESUS Patients is Enhanced by Combining Expert-Derived Predictors and Embedding of Full Diagnostic Codes using Pre-Trained Hypergraph Neural Networks.* Abstract in the International Stroke Conference, 2024.

- Yuhua Wu, Fadi Nahab, Yi Ge, Yuzhang Xie, Hassan Aboul-Nour, **Carl Yang**, Xiao Hu: *Prediction of Post-Stroke AF in ESUS Patients is Enhanced by Combining Expert-Derived Predictors and Embedding of Full Diagnostic Codes using Pre-Trained Hypergraph Neural Networks.* Abstract in the International Stroke Conference, 2024.

- Pavel Popov, Usman Mahmood, Zening Fu, **Carl Yang**, Vince Calhoun, Sergey Plis: *A Simple but Tough-to-Beat Baseline for fMRI Time-series Classification.* **NeuroImage**, 2024.

- Hejie Cui, Lingjun Mao, Xin Liang, Jieyu Zhang, Hui Ren, Quanzheng Li, Xiang Li, **Carl Yang**: *Biomedical Visual Instruction Tuning with Clinician Preference Alignment.* Proceedings of the Conference on Neural Information Processing Systems (**NeurIPS**), 2024.

- Jingbo Zhou, Yixuan Du, Ruqiong Zhang, Jun Xia, Zhizhi Yu, Zelin Zang, Di Jin, **Carl Yang**, Rui Zhang, Stan Z Li: *Deep Graph Neural Networks via Posteriori-Sampling-based Node-Adaptative Residual Module.* Proceedings of the Conference on Neural Information Processing Systems (**NeurIPS**), 2024.

- Kaiqiao Han, Yi Yang, Zijie Huang, Xuan Kan, Ying Guo, Yang Yang, Lifang He, Liang Zhan, Yizhou Sun, Wei Wang, **Carl Yang**: *BrainODE: Dynamic Brain Signal Analysis via Graph-Aided Neural Ordinary Differential Equations.* Proceedings of the IEEE International Conference on Biomedical and Health Informatics (**BHI**), 2024.

- Xuan Kan, Hejie Cui, Keqi Han, Ying Guo, **Carl Yang**: *Multi-task Learning for Brain Network Analysis in the ABCD study.* Proceedings of the IEEE International Conference on Biomedical and Health Informatics (**BHI**), 2024.

- Ran Xu, Wenqi Shi, Yue Yu, Yuchen Zhuang, Yanqiao Zhu, May Dongmei Wang, Joyce C Ho, Chao Zhang, **Carl Yang**: *BMRetriever: Tuning Large Language Models as Better Biomedical Text Retrievers.* Proceedings of the Conference on Empirical Methods in Natural Language Processing (**EMNLP**), 2024.

- Wenqi Shi, Ran Xu, Yuchen Zhuang, Yue Yu, Haotian Sun, Hang Wu, **Carl Yang**, May Dongmei Wang: *MedAdapter: Efficient Test-Time Adaptation of Large Language Models Towards Medical Reasoning.* Proceedings of the Conference on Empirical Methods in Natural Language Processing (**EMNLP**), 2024.

- Wenqi Shi, Ran Xu, Yuchen Zhuang, Yue Yu, Jieyu Zhang, Hang Wu, Yuanda Zhu, Joyce C Ho, **Carl Yang**, May Dongmei Wang: *EHRAgent: Code Empowers Large Language Models for Few-shot Complex Tabular Reasoning on Electronic Health Records.* Proceedings of the Conference on Empirical Methods in Natural Language Processing (**EMNLP**), 2024.
- Haiquan Chen, Sirish Prabakar, Zhe Jiang, **Carl Yang**, Weikuan Yu, Da Yan: *LENS: Label Sparsity-Tolerant Adversarial Learning on Spatial Deceptive Reviews.* **GeoInformatica**, 2024.
- Zidu Xu, Yaowen Gu, **Carl Yang**: *Empowering Graph Neural Network-based Computational Drug Repositioning with Large Language Model-inferred Knowledge Representation.* Interdisciplinary Sciences: **Computational Life Sciences**, 2024.
- Rui Yin, Hongru Zhao, Lu Li, Qiang Yang, Min Zeng, **Carl Yang**, Jiang Bian, Mingyi Xie: *Gra-CRC-miRTar: The Pre-trained Nucleotide-to-Graph Neural Networks to Identify Potential miRNA Targets in Colorectal Cancer.* **Computational and Structural Biotechnology Journal**, 2024.
- Han Xie, Li Xiong, **Carl Yang**: *Federated Node Classification over Distributed Ego-Networks with Secure Contrastive Embedding Sharing.* Proceedings of the ACM International Conference on Information and Knowledge Management (**CIKM**), 2024.
- Baoyu Jing, Dawei Zhou, Kan Ren, **Carl Yang**: *Causality-Aware Spatiotemporal Graph Neural Networks for Spatiotemporal Time Series Imputation.* Proceedings of the ACM International Conference on Information and Knowledge Management (**CIKM**), 2024.
- Eric Lee, Bo Xiong, **Carl Yang**, Joyce C Ho: *HypMix: Hyperbolic Representation Learning for Graphs with Mixed Hierarchical and Non-hierarchical Structures.* Proceedings of the ACM International Conference on Information and Knowledge Management (**CIKM**), 2024.
- Hejie Cui, Zhuocheng Shen, Jieyu Zhang, Hui Shao, Lianhui Qin, Joyce C Ho, **Carl Yang**: *LMs-based Few-Shot Disease Predictions using EHR: A Novel Approach Combining Predictive Agent Reasoning and Critical Agent Instruction.* Proceedings of the American Medical Informatics Association Annual Summit (**AMIA**), 2024.
- Hang Lv, Zehai Chen, Yacong Yang, Shuyao Pan, Bo Xiong, Yanchao Tan, **Carl Yang**: *Enhancing Semantic and Structure Modeling of Diseases for Diagnosis Prediction.* Proceedings of the American Medical Informatics Association Annual Summit (**AMIA**), 2024.
- Ziyang Zhang, Hejie Cui, Ran Xu, Yuzhang Xie, Joyce C Ho, **Carl Yang**: *TACCO: Task-guided Co-clustering of Clinical Concepts and Patient Visits for Disease Subtyping based on EHR Data.* Proceedings of the ACM International Conference on Knowledge Discovery and Data Mining (**KDD**), 2024.
- Huaming Du, Long Shi, Xingyan Chen, Yu Zhao, Hegui Zhang, **Carl Yang**, Fuzhen Zhuang, Gang Kou: *Representation Learning of Temporal Graphs with Structural Roles.* Proceedings of the ACM International Conference on Knowledge Discovery and Data Mining (**KDD**), 2024.
- Ran Xu, Wenqi Shi, Yue Yu, Yuchen Zhuang, Bowen Jin, May Dongmei Wang, Joyce C Ho, **Carl Yang**: *RAM-EHR: Retrieval Augmentation Meets Clinical Predictions on Electronic Health Records.* Proceedings of the Annual Meeting of the Association for Computational Linguistics (**ACL**), 2024.
- Ran Xu, Hejie Cui, Yue Yu, Xuan Kan, Wenqi Shi, Yuchen Zhuang, May Dongmei Wang, Wei Jin, Joyce C Ho, **Carl Yang**: *Knowledge-Infused Prompting: Assessing and Advancing Clinical Text Data Generation with Large Language Models.* Findings of the Association for Computational Linguistics: ACL (**ACL-Findings**), 2024.
- Haoteng Tang, Guodong Liu, Siyuan Dai, Kai Ye, Kun Zhao, Wenlu Wang, **Carl Yang**, Lifang He, Alex Leow, Paul Thompson, Heng Huang, Liang Zhan: *Interpretable Spatio-Temporal Embedding for Brain Structural-Effective Network with Ordinary Differential Equation.* Proceedings of the International Conference on Medical Image Computing and Computer Assisted Intervention (**MICCAI**), 2024.
- Hejie Cui, **Carl Yang**: *AI-Assisted Healthcare with Multimodal Structured Knowledge Extraction and Augmented Inference .* Doctoral Forum of the Conference on Health, Inference, and Learning (**CHIL**), 2024.

- Ran Xu, Yiwen Lu, Chang Liu, Yong Chen, Yan Sun, Xiao Hu, Joyce C Ho, **Carl Yang**: *From Basic to Extra Features: Hypergraph Transformer Pretrain-then-Finetuning for Balanced Clinical Predictions on EHR.* Proceedings of the Conference on Health, Inference, and Learning (**CHIL**), 2024.
- Yuzhang Xie, Jiaying Lu, Joyce C Ho, Fadi Nahab, Xiao Hu, **Carl Yang**: *PromptLink: Leveraging Large Language Models for Cross-Source Biomedical Concept Linking.* Proceedings of the ACM International Conference on Research and Development in Information Retrieval (**SIGIR**), 2024.
- Hengyu Zhang, Hang Lv, Yanchao Tan, Guofang Ma, Fan Wang, **Carl Yang**: *ExpertODE: Continuous Diagnosis Prediction with Expert Enhanced Neural Ordinary Differential Equations.* Proceedings of the IEEE International Conference on Multimedia and Expo (**ICME**), 2024.
- Zhaoliang Chen, Cheng Ding, Nirbhay Modhe, Jiaying Lu, **Carl Yang**, Xiao Hu: *Adapting a Generative Pretrained Transformer Achieves SOTA Performance in Assessing Diverse Physiological Functions Using Only Photoplethysmography Signals: A GPT-PPG Approach.* Proceedings of the AAAI Spring Symposium on Clinical Foundation Models (**ClinicalFMs**), 2024.
- Qiuchen Zhang, Hong kyu Lee, Jing Ma, Jian Lou, **Carl Yang**, Li Xiong: *DPAR: Decoupled Graph Neural Networks with Node-Level Differential Privacy.* Proceedings of the International World Wide Web Conference (**WWW**), 2024.
- Jiaying Lu, Shifan Zhao, Wenjing Ma, Hui Shao, Xiao Hu, Yuanzhe Xi, **Carl Yang**: *Uncertainty-Aware Pre-Trained Foundation Models for Patient Risk Prediction via Gaussian Process.* Companion Proceedings of the International World Wide Web Conference (**WWW**), Health Day, ***MCBIOS Young Scientist Excellence Award***, 2024.
- Hang Lv, Zehai Chen, Yacong Yang, Guofang Ma, Yanchao Tan, **Carl Yang**: *BoxCare: A Box Embedding Model for Disease Representation and Diagnosis Prediction in Healthcare Data.* Companion Proceedings of the International World Wide Web Conference (**WWW**), Health Day, 2024.
- Yanchao Tan, Hengyu Zhang, Zihao Zhou, Guofang Ma, Fan Wang, Weiming Liu, Xinting Liao, **Carl Yang**: *Enhancing Progressive Diagnosis Prediction in Healthcare with Continuous Normalizing Flows.* Companion Proceedings of the International World Wide Web Conference (**WWW**), Health Day, 2024.
- Hejie Cui, Xuan Kan, **Carl Yang**: *Brain Connectome Analysis with Graph Neural Networks.* Tutorial at the IEEE International Symposium on Biomedical Imaging (**ISBI**), 2024.
- Keqi Han, Xuan Kan, **Carl Yang**: *Convergent Brain Connectome Analysis with Brain Graph Transformers.* Proceedings of the IEEE International Symposium on Biomedical Imaging (**ISBI**), 2024.
- Han Xie, **Carl Yang**: *Data Heterogeneity in Federated Graph Learning: Problems, Applications, and Methods.* Doctoral Forum of the SIAM International Conference on Data Mining (**SDM**), ***Best Poster Runner-up***, 2024.
- Ke Zhang, Lichao Sun, Bolin Ding, Siu Ming Yiu, **Carl Yang**: *Deep Efficient Private Neighbor Generation for Subgraph Federated Learning.* Proceedings of the SIAM International Conference on Data Mining (**SDM**), 2024.
- Junruo Gao, Chen Ling, **Carl Yang**, Liang Zhao: *Helper Recommendation with Seniority Control in Online Health Community.* Proceedings of the SIAM International Conference on Data Mining (**SDM**), 2024.
- Yiqi Dong, Dongxiao He, Xiaobao Wang, Youzhu Jin, Meng Ge, **Carl Yang**, Di Jin: *Unveiling Implicit Deceptive Patterns in Multi-modal Fake News via Neuro-Symbolic Reasoning.* Proceedings of the AAAI International Conference on Artificial Intelligence (**AAAI**), 2024.
- Yanchao Tan, Hang Lv, Zihao Zhou, Wenzhong Guo, Bo Xiong, Weiming Liu, Chaochao Chen, Shiping Wang, **Carl Yang**: *Logical Relation Modeling and Mining in Hyperbolic Space for Recommendation.* Proceedings of the IEEE International Conference on Data Engineering (**ICDE**), 2024.
- Zhenghong Lin, Yanchao Tan, Qishan Yan, Weiming Liu, Shiping Wang, Menghan Wang, **Carl Yang**: *Automatic Hypergraph Generation for Enhancing Recommendation with Sparse Optimization.* IEEE Transactions on Multimedia (**TMM**), 2024.
- Marly van Assen, Amara Tariq, Alexander Razavi, **Carl Yang**, Imon Banerjee, Carlo De Cecco: *CFusion Modeling: Combining Clinical and Imaging Data to Advance Cardiac Care.* **Circulation:**

**Cardiovascular Imaging**, 2024.

- Amit Roy, Juan Shu, Jia Li, **Carl Yang**, Olivier Elshocht, Jeroen Smeets, Pan Li: *GAD-NR: Graph Anomaly Detection via Neighborhood Reconstruction.* Proceedings of the ACM International Conference on Web Search and Data Mining (**WSDM**), 2024.

- Yi Yang, Han Xie, Hejie Cui, **Carl Yang**: *FedBrain: Federated Training of Graph Neural Networks for Connectome-based Brain Imaging Analysis.* Proceedings of the Pacific Symposium on Biocomputing (**PSB**), 2024.

- Alexis Li, Yi Yang, Hejie Cui, **Carl Yang**: *BrainSTEAM: A Practical Pipeline for Connectome-based fMRI Analysis towards Subject Classification.* Proceedings of the Pacific Symposium on Biocomputing (**PSB**), 2024.

- Yanchao Tan, Zihao Zhou, Hang Lv, Weiming Liu, **Carl Yang**: *WalkLM: A Uniform Language Model Fine-tuning Framework for Attributed Graph Embedding.* Proceedings of the Conference on Neural Information Processing Systems (**NeurIPS**), 2023.

- Hejie Cui, Xinyu Fang, Zihan Zhang, Ran Xu, Xuan Kan, Xin Liu, Yue Yu, Manling Li, Yangqiu Song, **Carl Yang**: *Open Visual Knowledge Extraction via Relation-Oriented Multimodality Model Prompting.* Proceedings of the Conference on Neural Information Processing Systems (**NeurIPS**), 2023.

- Jiarong Xu, Renhong Huang, Xin Jiang, Yuxuan Cao, **Carl Yang**, Chunping Wang, Yang Yang: *Better with Less: A Data-Centric Perspective on Pre-Training Graph Neural Networks.* Proceedings of the Conference on Neural Information Processing Systems (**NeurIPS**), 2023.

- Jiaying Lu, Yongchen Qian, Shifan Zhao, Yuanzhe Xi, **Carl Yang**: *MuG: A Multimodal Classification Benchmark on Game Data with Tabular, Textual, and Visual Fields.* Findings of the Association for Computational Linguistics: EMNLP (**EMNLP-Findings**), 2023.

- Yanchao Tan, Zihao Zhou, Leisheng Yu, Weiming Liu, Chaochao Chen, Guofang Ma, Xiao Hu, Vicki Hertzberg, **Carl Yang**: *Enhancing Personalized Healthcare via Capturing Disease Severity, Interaction, and Progression.* Proceedings of the IEEE International Conference on Data Mining (**ICDM**), 2023.

- Dong Chen, Siliang Tang, Zijin Shen, Guoming Wang, Jun Xiao, Yueting Zhuang, **Carl Yang**: *FedAA: Using Non-sensitive Modalities to Improve Federated Learning while Preserving Image Privacy.* Proceedings of the ACM International Conference on Multimedia (**MM**), 2023.

- Zhenghong Lin, Yanchao Tan, Yunfei Zhan, Weiming Liu, Fan Wang, Chaochao Chen, Shiping Wang, **Carl Yang**: *Contrastive Intra- and Inter-Modality Generation for Enhancing Incomplete Multimedia Recommendation.* Proceedings of the ACM International Conference on Multimedia (**MM**), 2023.

- Xuan Kan, Antonio Aodong Chen Gu, Hejie Cui, Ying Guo, **Carl Yang**: *Dynamic Brain Transformer with Multi-level Attention for Brain Network Analysis.* Proceedings of the IEEE International Conference on Biomedical and Health Informatics (**BHI**), 2023.

- Han Xie, Da Zheng, Jun Ma, Houyu Zhang, Vassilis N. Ioannidis, Xiang Song, Qing Ping, Sheng Wang, **Carl Yang**, Yi Xu, Belinda Zeng, Trishul Chilimbi: *Graph-Aware Language Model Pre-Training on a Large Graph Corpus Can Help Multiple Graph Applications.* Proceedings of the ACM International Conference on Knowledge Discovery and Data Mining (**KDD**), 2023.

- Xuan Kan, Zimu Li, Hejie Cui, Yue Yu, Ran Xu, Shaojun Yu, Zilong Zhang, Ying Guo, **Carl Yang**: *R-Mixup: Riemannian Mixup for Biological Networks.* Proceedings of the ACM International Conference on Knowledge Discovery and Data Mining (**KDD**), 2023.

- Yuxuan Cao, Jiarong Xu, **Carl Yang**, Jiaan Wang, Yunchao Zhang, Chunping Wang, Lei Chen, Yang Yang: *When to Pre-Train Graph Neural Networks? An Answer from Data Generation Perspective.* Proceedings of the ACM International Conference on Knowledge Discovery and Data Mining (**KDD**), 2023.

- Hejie Cui, Rongmei Lin, Nasser Zalmout, Chenwei Zhang, Jingbo Shang, **Carl Yang**, Xian Li: *PV2TEA: Patching Visual Modality to Textual-Established Product Attribute Extraction.* Findings of the Association for Computational Linguistics: ACL (**ACL-Findings**), 2023.

- **Carl Yang**, Xiaoxiao Li, Jundong Li, Lichao Sun, Nathalie Baracaldo, Lingjuan Lyu, Bolin Ding, Salman Avestimehr: *The 2nd International Workshop on Federated Learning with Graph Data (FedGraph2023).* Proceedings of the IEEE International Conference on Data Mining (**ICDM**), 2023.
- Hejie Cui, Xuan Kan, Xiaoxiao Li, Lifang He, Liang Zhan, Ying Guo, **Carl Yang**: *Brain Network Analysis with Graph Neural Network.* Tutorial at the International Conference on Intelligent Biology and Medicine (**ICIBM**), 2023.
- Yi Yang, Hejie Cui, **Carl Yang**: *PTGB: Pre-Train Graph Neural Networks for Brain Network Analysis.* Proceedings of the Conference on Health, Inference, and Learning (**CHIL**), *Oral*, 2023.
- Mingyue Tang, Jiechao Gao, Guimin Dong, **Carl Yang**, Brad Campbell, Brendan Bowman, Jamie Marie Zoellner, Emaad Abdel-Rahman, Mehdi Boukhechba: *SRDA: Mobile Sensing based Fluid Overload Detection for End Stage Kidney Disease Patients using Sensor Relation Dual Autoencoder.* Proceedings of the Conference on Health, Inference, and Learning (**CHIL**), 2023.
- Jiaying Lu, Jiaming Shen, Bo Xiong, Wenjing Ma, Steffen Staab, **Carl Yang**: *HiPrompt: Few-Shot Biomedical Knowledge Fusion via Hierarchy-Oriented Prompting.* Proceedings of the ACM International Conference on Research and Development in Information Retrieval (**SIGIR**), 2023.
- Ran Xu, Yue Yu, Joyce C Ho, **Carl Yang**: *Weakly-supervised Scientific Document Classification via Retrieval-based Multi-stage Training.* Proceedings of the ACM International Conference on Research and Development in Information Retrieval (**SIGIR**), 2023.
- Chen Lin, Jianghong Zhou, Jing Zhang, **Carl Yang**, Eugene Agichtein: *Graph Neural Network Modeling of Web Search Activity for Real-time Pandemic Forecasting.* Proceedings of the IEEE International Conference on Healthcare Informatics (**ICHI**), 2023.
- Jiaying Lu, Xiangjue Dong, **Carl Yang**: *Weakly Supervised Concept Map Generation through Task-Guided Graph Translation.* IEEE Transactions on Knowledge and Data Engineering (**TKDE**), 2023.
- Cheng Ling, **Carl Yang**, Liang Zhao: *Motif-guided Heterogeneous Graph Deep Generation.* Knowledge and Information Systems (**KAIS**), 2023.
- 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: 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.

## 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.
*Research Intern, Supervisors: Dr. Jie Luo, Dr. Xiaolin Shi, Dr. Li-Jia Li*

*May. 2016 - Aug. 2016*

*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
*Software Engineer Intern, Supervisor: Dr. Tianyi Wu*

*May. 2015 - Aug. 2015*

*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.

## SERVICES AND ACTIVITIES

### Editorial Boards
- 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**), since 2022.
- Associate Editor, IEEE Transactions on Big Data (**TBD**), since 2021.
- Associate Editor, Big Data Journal, Mary Ann Liebert, Inc., since 2021.
- Guest Editor, Frontiers in Big Data and Artificial Intelligence, since 2021.

### Journal Reviews
- 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.

### Event Organizations
- Program Committee Chair, The ACM International Conference on Information and Knowledge Management (**CIKM**), 2025.

- Social Media and Publicity Chair, Organizer of Health Day, The ACM International Conference on Knowledge Discovery and Data Mining (**KDD**), 2025.
- Lead Organizer and General Chair, The 2024 International Joint Workshop on Federated Learning for Data Mining and Graph Analytics (**FedKDD**), 2024.
- AnalytiCup Chair, The ACM International Conference on Information and Knowledge Management (**CIKM**), 2024.
- Social Media and Publicity Chair, The ACM International Conference on Knowledge Discovery and Data Mining (**KDD**), 2024.
- Lead Organizer and General Chair, The 2023 IEEE International Workshop on Federated Learning with Graph Data (**FedGraph**), 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**), 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 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 (**MM**), 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.

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

### Research Seminars
- Tutorial on Graph Learning for Dynamic Brain Network Analysis, ISBI 2025, Texas, USA, April 2025.
- National University of Singapore, Nanyang Technological University, and Singapore Management University, Singapore, March 2025.
- David Geffen School of Medicine, UCLA, California, USA, January 2025.
- Department of Computer Science, Brigham Young University, Utah, USA, January 2025.
- Flash talk at the NIH AI in Precision Medicine Workshop, Maryland, USA, November 2024.
- Perspective talk at the NIH CFDE 2024 Fall Meeting, Maryland, USA, October 2024.
- AI for Healthcare Invited Talk Series, UT Austin, Texas, USA, September 2024.
- School of CSE Seminar Series, Georgia Tech, Georgia, USA, September 2024.
- Keynote at the Deep Learning and Large Language Models for Knowledge Graphs Workshop, KDD 2024, Spain, August 2024.
- Invited talk at 2024 IMSI Workshop on Challenges in Neuroimaging Data Analysis, Illinois, USA, August 2024.
- Data Science & Artificial Intelligence Laboratory, KAIST, Korea, July 2024.
- IEEE Seminar Series, Lehigh Valley Section, Pennsylvania, USA, June 2024.
- Half-day Tutorial on GNNs for Brain Connectome Analysis, ISBI 2024, Greece, June 2024.
- AMIA KDDM Webinar, Floria, USA, April 2024.
- NSF CREST Dynamic Multiscale & Multimodal Brain Mapping across the Lifespan (D-MAP) Center, Georgia, USA, April 2024.
- Keynote at the Asia Conference on Cognitive Engineering and Intelligent Interaction (CEII2023), Hong Kong, China, December 2023.
- Department of Computer Science, University of Oxford, UK, October 2023.
- School of Informatics, University of Edinburgh, UK, October 2023.

- Keynote at the International Workshop on Federated Learning for Distributed Data Mining, KDD 2023, California, USA, August 2023.
- Digital and Data Science Group, Kaiser Permanente, Georgia, USA, April 2023.
- ScAi Lab, University of California, Los Angeles, California, USA, April 2023.
- Trustworthy Machine Learning Class, Yale University, Connecticut, USA, March 2023.
- Data Science Team, Home Depot Headquarter, Georgia, USA, March 2023.
- Natural Language Processing Laboratory, Nara Institute of Science and Technology, Japan, December 2022.
- Secchia Center, Michigan State University, Michigan, USA, November 2022.
- Rollins School of Public Health, Emory University, Georgia, USA, October 2022.
- Nell Hodgson Woodruff School of Nursing, Emory University, Georgia, USA, September 2022.
- The Computational Neuroimage Science (CNS) Lab, Stanford University, California, USA, May 2022.
- Data Science for Mental Health Group, Alan Turing Institution, London, UK, March 2022.
- Weill Cornell Medical College, Cornell University, New York, USA, February 2022.
- Department of Computer Science, Purdue University, Indiana, USA, November 2021.
- DGL User Group, California, USA, November 2021.
- Amazon ML Tech Talk, Washington, USA, October 2021.
- Information Theory and Machine Learning (vITAL) Research Lab, University of South California, California, USA, July 2021.
- School of Computer Science, University of Sydney, New South Wales, Australia, March 2020.
- Department of Computer Science, University of Florida, Florida, USA, March 2020.
- School of Computing Science, Simon Fraser University, British Columbia, Canada, February 2020.
- Department of Computer Science, Emory University, Georgia, USA, February 2020.
- College of Computer Science and Technology, Zhejiang University, Zhejiang, China, January 2020.
- Department of Computer Science, University of British Columbia, British Columbia, Canada, December 2019.
- Center for Science of Science and Innovation (CSSI), Northwestern University, Illinois, USA, November 2019.
- Great Lakes Workshop on Data Science, University of Notre Dame, Indiana, USA, September 2019.
- Fudan University and Shanghai Jiao Tong University, Shanghai, China, November 2018.
- Snap Research, Snap Inc., California, USA, March 2018.
- Tsinghua University and University of Science and Technology, Beijing, China, August 2017.