# Jiliang Tang

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**RESEARCH INTERESTS**

- Network Embedding, Graph Neural Networks, Deep Learning on Graphs
- Trustworthy AI: Security and Fairness
- AI + X: Education and Biology

**EDUCATION**

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|---|---|
| **Arizona State University, PhD** | August,2010 - May,2015 |
| **Beijing Institute of Technology, MS** | August,2008 - June,2010 |
| **Beijing Institute of Technology, BE** | August,2004 - June,2008 |

**WORK EXPERIENCE**

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|---|---|
| **MSU Foundation Professor, CSE, Michigan State University** | July, 2022 - Present |
| **Professor, CSE, Michigan State University** | July, 2022 - Present |
| **Associate Professor, CSE, Michigan State University** | July, 2021 - June, 2022 |
| **Assistant Professor, CSE, Michigan State University** | August, 2016 - June, 2021 |
| **Research Scientist, Yahoo Labs, Yahoo!** | March, 2015 - August, 2016 |
| **Research Assistant, Arizona State University** | August, 2010 - February, 2015 |
| **Research Intern, IBM T. J. Watson Research Center** | May, 2014 - August, 2014 |
| **Research Intern, Yahoo Labs** | May, 2013 - August, 2013 |

**HONORS AND AWARDS**

- **Rising Star with Ranking 14 in US cross all disciplines** ( https://research.com/u/jiliang-tang) 2023
- **Cisco Faculty Award** 2023
- **JP Morgan Faculty Award** 2023
- **AI's 10 to Watch**, IEEE 2022
- **Won the second place at NeurIPS22 OGB-LSC MAG240M Track** 2022
- **Won a Kaggle Silver Medal at NeurIPS22 Multimodal Single-Cell Integration**, 2022
- **J. K. AGGARWAL Award** , ICPR 2022
- **IBM/SDM Faculty Award**, SIAM 2022
- **2022 Amazon Faculty Award**, Amazon 2022
- **2022 Cisco Faculty Award**, Cisco 2022
- **2021 AI2000 Most Influential Scholar**, Aminer 2021
- **Tao Li Award**, ICDM, IEEE 2021
- **the Best of ICDM**, ICDM, IEEE 2021
- **Top 1 winner** in the task of modality prediction from OpenProblems-NeurIPS2021 Single-Cell Multimodal Data Integration 2021
- **The Rising Star Award** , The Association of Chinese Scholars in Computing 2021
- **Big Data Security Junior Research Award**, IEEE 2021
- **SIGKDD Rising Star Award**, SIGKDD, ACM 2020
- **2020 AI2000 Most Influential Scholar**, Aminer 2020
- **Withrow Distinguished Scholar Award**, MSU 2020
- **Best Paper Award Shortlist**, SECON 2019
- **IJCAI Early Career Talk**, IJCAI 2019
- **Best Paper Award Nomination**, ICHI 2019
- **NSF Career Award**, NSF 2019
- **Aminer Most Influential Scholar Award**, Aminer 2019
- **Best Paper Award**, ASONAM, ACM 2018
- **Best Student Paper Award**, WSDM, ACM 2018

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| • **Best Paper Award**, SIGKDD, ACM | 2016 |
| • **Yahoo! Invention Award**, Yahoo Research, Yahoo, | 2016 |
| • **Yahoo LEAP Award**, Yahoo Labs, Yahoo | 2015 |
| • **Runner Up of the Best SIGKDD Dissertation Award**, SIGKDD, ACM | 2015 |
| • **Dean's Dissertation Award**, Arizona State University | 2015 |
| • **Outstanding PhD Graduation**, Arizona State University | 2015 |
| • **ASU President's Award for Innovation**, Arizona State University | 2014 |
| • **Best Paper Shortlist**, WSDM, ACM | 2013 |

OPEN-SOURCED
TOOLS

- "Scikit-feature: A Python Repository for Feature Selection", 1,300+ stars in GitHub
- "DeepRobust: A Platform for Adversarial Attacks and Defenses", 800+ stars in GitHub
- "DANCE: A Deep Learning Library and Benchmark for Single-Cell Analysis", 200+ stars in GitHub

GRANTS

- AI-assisted Efficient Testing Methods for 5G Open-RAN Radio, Distributed, and Central Units, NTIA, CoPI, $2,000,000, 2023-2027
- Cisco Faculty Award, Cisco Inc, PI, $100,000 (gift money), 2023-2024
- Intelligent, Adaptive Program with Just-in-time Feedback for Preservice Teachers, NSF, MSU PI, $2,000,000, 2023-2027
- Safeguarding Next-Generation Emergency Services (NG-9-1-1) over Cellular Networks: From Design to Practice, NSF, CoPI, $1,200,000, 2023-2026
- JP Morgan Faculty Award, JP Morgan, PI, $70,000 (gift money), 2023-2024
- Amazon Faculty Award, Amazon, PI, $100,000 (gift money), 2023-2024
- Personalized Recommendations, Home Depot, PI, $60,000 (gift money), 2023-2024
- Graph Neural Networks for Link Prediction, SNAP, PI, $20,000 (gift money), 2023-2024
- Computation and Communication Efficient Distributed Learning, NSF, PI, $1,200,000, 2022-2026
- Graph Neural Networks for Heterophilous Data: Advancing the Theory, Models, and Applications, NSF, PI, $1,200,000, 2022-2026
- MSU Foundation Professor Fund, MSU, PI, 500,000 (unrestricted money), 2022-2027
- Student Activities Support at 2022 SIAM International Conference on Data Mining (SDM), NSF, PI, $40,000, 2022-2024
- Graph Neural Networks for Anomaly Detection, Amazon Faculty Award, PI, $100,000 (gift money), 2022-2023
- Learning to Transform Graphs for Graph Neural Networks, SNAP, PI, $20,000 (gift money), 2022-2023
- On the Study of Fairness in Adversarial Defense, Cisco Systems Inc, PI, $72,984 (gift money), 2022-2023
- Graph Neural Networks for scRNAseq data, Johnson & Johnson, $200k, 2022-2024
- Graph Neural Networks for Knowledge Graph Completion, Katana Graph, PI, $30k (gift money), 2021-2022
- Graph Neural Networks for Recommendations, Home Depot, PI, $60k (gift money), 2021-2022
- TRTech-PGR: Connecting sequences to functions within and between species through computational modeling and experimental studies, NSF, CoPI, $1,400,000, 2021-2014
- TRTech-PGR: Maize Hub: An Open-source Simulation Platform & Resources integrating extensive field trial data, DNA sequences, and historical weather records, NSF, CoPI, $1,426,443, 2021-2025
- Toward Interpretable and Stable Graph Neural Networks, ARO, PI, $450K, 2021-2024
- Graph Rewriting for Graph Representation Learning, SNAP Inc, PI, $10k (gift money), 2020-2021
- Advanced Quantitative and Computational Methods for STEM Education Research, NSF, CoPI (with PIs from MSU and University of Chicago), $1M in total and $227, 040 for MSU, 2020 - 2023
- Towards Scalable and Interpretable Graph Neural Networks, NSF, PI (with PIs from PSU and

TAMU), \$300K in total and \$100K for MSU, 2021 - 2022
- Teachers in Social Media, MSU CBSA, Co-PI, \$25K, 2020-2021
- Intelligent Social Network Interventions to Augment Human Cognition for Interdisciplinary Interactions in Project Teams, NSF, Co-PI, \$1,439,993, 2019 - 2022
- Effective Labeled Data Generation via Generative Adversarial Learning, NSF, PI (with PI from PSU), \$500K in total and \$100K for MSU, 2019 - 2022
- Singed Networks: Modeling, Measuring, and Mining, NSF, PI, \$507K, 2019 - 2024
- Rapid Construction of Heterogeneous Models, DARPA, CoPI, \$250K, 2018 - 2020
- Machine Learning for Ordering, Ford, Co-PI, \$200K (gift money), 2019 - 2021
- Deep Reinforcement Learning for Advertising, Criteo Lab, \$15K (gift money), 2018 - 2020
- Sequential Learning with Side Information, NEC American Labs, \$20K (gift money), 2019 - 2020
- Side-channel Attacks Against Mobile Users: Singularity Detection, Behavior Identification, and Automated Rectification, NSF, Co-PI, \$500K, 2018 - 2021
- Reducing cardinality of solutions from a Hyper-Pareto front: Merging a grand tour with anomaly detection techniques in real-time, Living PlanIT, PI, \$120K (gift money), 2018 - 2020
- Semantic Entity Matching Phase II, MSU Business Center, PI, \$14K, 10/01/2019 - 03/31/2020
- #Cloud2Class: Exploring the Disruption and Reorganization of Educational Resources in the Age of Social Media, the American Educational Research Association, Co-PI, \$200k, 2018 - 2019
- Semantic Entity Matching Phase I, MSU Business Center, \$14K, 2018 - 2019
- Unsupervised Feature Selection in the Era of Big Data, NSF, PI, \$480K, 2017 - 2021
- A General Feature Learning Framework for Dynamic Attributed Networks, NSF, PI (with PI from TAMU), \$500K in total and \$247K for MSU, 2017 - 2020
- Student Activities Support at 2017 SIAM International Conference on Data Mining (SDM), NSF, PI, \$34K, 2017 - 2019
- Conflict of Interest Editing in Wikipedia, MSU CBSA, Co-PI, \$25K, 2017-2018
- Using Big Data to Detect Counterfeit Products, MSU CBSA, Co-PI, \$25K, 2017-2018
- Understanding the Temporal and Structural Dynamics of Emotion toward Emerging Diseases, MSU Trifecta, Co-PI, \$10K, 2016-2017

SELECTED
PUBLICATIONS

- **Impact**: **31,700+** citations, and h-index: **87**

***For the full list of publications**, *please refer to my google scholar profile page:* `https://scholar.google.com/citations?user=WtzKMWAAAAAJ&hl=en`

**Books**

[**B1**] Yao Ma and Jiliang Tang. "Deep Learning on Graphs", Cambridge University Press, 2022.

[**B2**] Jiliang Tang and Huan Liu. "Trust in Social Media", Morgan & Claypool Publishers, 2016

**Journal Papers**

[**J1**] Wenqi Fan, Xiangyu Zhao, Qing Li, Tyler Derr, Yao Ma, Hui Liu, Jianping Wang, and Jiliang Tang. "Adversarial Attacks for Black-box Recommender Systems via Copying Transferable Cross-domain User Profiles", In IEEE Transactions on Knowledge and Data Engineering (IEEE TKDE), 2023.

[**J2**] Yiqi Wang, Chaozhuo Li, Zheng Liu, Mingzheng Li, Jiliang Tang, Xing Xie, Lei Chen, Philip S. Yu. "An Adaptive Graph Pre-training Framework for Localized Collaborative Filtering", In ACM Transactions on Information Systems (TOIS), 2022

[**J3**] Haochen Liu, Yiqi Wang, Wenqi Fan, Xiaorui Liu, Yaxin Li, Shaili Jain, Yunhao Liu, Anil K. Jain and Jiliang Tang. "Trustworthy AI: A Computational Perspective", In ACM Transactions on Intelligent Systems and Technology (TIST), 2022

[**J4**] Kaitlin Torphy Knake, Hamid Karimi, Sihua Hu, Kenneth A. Frank, and Jiliang Tang. "Educational Research in the Twenty-First Century: Leveraging Big Data to Explore Teachers?

Professional Behavior and Educational Resources Accessed within Pinterest", The Elementary School Journal (2021).

[**J5**] Wentao Wang, Guowei Xu, Wenbiao Ding, Gale Yan Huang, Guoliang Li, Jiliang Tang and Zitao Liu. "Representation Learning from Limited Educational Data with Crowdsourced Labels", IEEE Trans. Knowl. Data Eng (2020).

[**J6**] Wenqi Fan, Yao Ma , Qing Li, Jianping Wang, Guoyong Cai, Jiliang Tang and Dawei Yin. "A Graph Neural Network Framework for Social Recommendations ", IEEE Trans. Knowl. Data Eng (2020).

[**J7**] Jie Zhuang, Tai-quan (Winson) Peng, Jiliang Tang and Yingcai Wu. "Mixed and blended emotional reactions to 2014 Ebola outbreak", Journal of Global Health 10(1): 010304 (2020)

[**J8**] Christina B.Azodi, JiliangTang and Shin-HanShiu. "Opening the Black Box: Interpretable Machine Learning for Geneticists", Trends in Genetics 36 (6): 442-455 (2020).

[**J9**] Hamid Karimi, Tyler Derr, Kaitlin T. Torphy, Kenneth A. Frank, and Jiliang Tang. "A Roadmap for Incorporating Online Social Media in Educational Research", Teachers College Record (2019)

[**J10**] Makoto Yamada, Jiliang Tang et al. "Ultra High-Dimensional Nonlinear Feature Selection for Big Biological Data", IEEE Trans. Knowl. Data Eng. 30(7): 1352-1365 (2018).

[**J11**] Jundong Li, Kewei Cheng, Suhang Wang, Fred Morstatter, Robert P. Trevino, Jiliang Tang and Huan Liu. "Feature Selection: A Data Perspective", ACM Comput. Surv. 50(6): 94:1-94:45 (2018).

[**J12**] Jiliang Tang, Huiji Gao, Atish Das Sarma, Yizhou Bi and Huan Liu. "Trust Evolution: Modeling and Its Applications", Transactions on Knowledge and Data Engineering (TKDE), 27(6): 1724-1738 (2015)

[**J13**] Jiliang Tang and Huan Liu."An Unsupervised Feature Selection Framework for Social Media Data", Transactions on Knowledge and Data Engineering(TKDE), 26(12): 2914-2927 (2014).

[**J14**] Jiliang Tang and Huan Liu."Feature Selection for Social Media Data", ACM Transactions on Knowledge Discovery from Data(TKDD), 8(4): 19:1-19:27 (2014)

**Conference Papers**

[**C1**] Harry Shomer, Yao Ma, Juanhui Li, Bo Wu, Charu C. Aggarwal, Jiliang Tang. "Distance-Based Propagation for Efficient Knowledge Graph Reasoning", In Proceedings of the 2023 Conference on Empirical Methods in Natural Language Processing (EMNLP), 2023

[**C2**] Haoyu Han, Xiaorui Liu, Feng Shi, MohamadAli Torkamani, Charu C. Aggarwal, Jiliang Tang. "Towards Label Position Bias in Graph Neural Networks", In Proceedings of the 37th Conference on Neural Information Processing Systems (NeurIPS), 2023

[**C3**] Haitao Mao, Zhikai Chen, Wei Jin, Haoyu Han, Yao Ma, Tong Zhao, Neil Shah, Jiliang Tang. "Demystifying Structural Disparity in Graph Neural Networks: Can One Size Fit All?", In Proceedings of the 37th Conference on Neural Information Processing Systems (NeurIPS), 2023

[**C4**] Juanhui Li*, Harry Shomer*, Haitao Mao, Shenglai Zeng, Yao Ma, Neil Shah, Jiliang Tang, Dawei Yin. "Evaluating Graph Neural Networks for Link Prediction: Current Pitfalls and New Benchmarking", In Proceedings of the 37th Conference on Neural Information Processing Systems (NeurIPS), 2023

[**C5**] Wei Jin*, Haitao Mao*, Zheng Li, Haoming Jiang, Chen Luo, Hongzhi Wen, Haoyu Han, Hanqing Lu, Zhengyang Wang, Ruirui Li, Zhen Li, Monica Xiao Cheng, Rahul Goutam, Haiyang Zhang, Karthik Subbian, Suhang Wang, Yizhou Sun, Jiliang Tang, Bing Yin, Xianfeng Tang. "Amazon-M2: A Multilingual Multi-locale Shopping Session Dataset for Recommendation and

Text Generation", In Proceedings of the 37th Conference on Neural Information Processing Systems (NeurIPS), 2023

[C6] Zitao Liu, Qiongqiong Liu, Teng Guo, Jiahao Chen, Shuyan Huang, Xiangyu Zhao, Jiliang Tang, Weiqi Luo, Jian Weng. "XES3G5M: A Knowledge Tracing Benchmark Dataset with Auxiliary Information", In Proceedings of the 37th Conference on Neural Information Processing Systems (NeurIPS), 2023

[C7] Han Xu, Xiaorui Liu, Wentao Wang, Zitao Liu, Anil K. Jain, Jiliang Tang. "How does the Memorization of Neural Networks Impact Adversarial Robust Models?", In Proceedings of 29th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (SIGKDD), 2023

[C8] Juanhui Li, Harry Shomer, Jiayuan Ding, Yiqi Wang, Yao Ma, Neil Shah, Jiliang Tang, Dawei Yin. " Are Graph Neural Networks Really Helpful for Knowledge Graph Completion?", In Proceedings of the 61st Annual Meeting of the Association for Computational Linguistics (ACL), 2023

[C9] Haoyu Han, Xiaorui Liu, Haitao Mao, MohamadAli Torkamani, Feng Shi, Victor Lee, Jiliang Tang. "Alternately Optimized Graph Neural Networks", In Proceedings of the 40th International Conference on Machine Learning (ICML), 2023

[C10] Penghei He, Han Xu, Jie Ren, Yuxuan Wan, Zitao Liu, Jiliang Tang. "Probabilistic Categorical Adversarial Attack and Adversarial Training", In Proceedings of the 40th International Conference on Machine Learning (ICML), 2023

[C11] Wenqi Fan, Chengyi Liu, Yunqing Liu, Jiatong Li, Hang Li, Hui Liu, Jiliang Tang, Qing Li. "Generative Diffusion Models on Graphs: Methods and Applications", In Proceedings of the 32nd International Joint Conference on Artificial Intelligence (IJCAI), 2023

[C12] Jie Ren, Han Xu, Yuxuan Wan, Xingjun Ma, Lichao Sun, Jiliang Tang. "Transferable Unlearnable Examples", In Proceedings of International Conference on LearningRepresentations (ICLR), 2023

[C13] Wei Jin, Tong Zhao, Jiayuan Ding, Yozen Liu, Jiliang Tang, Neil Shah. "Empowering Graph Representation Learning with Test-Time Graph Transformation", In Proceedings of International Conference on LearningRepresentations (ICLR), 2023

[C14] Harry Shomer, Wei Jin, Wentao Wang, Jiliang Tang. "Toward Degree Bias in Embedding-Based Knowledge Graph Completion", In Proceedings of the ACM Web Conference (WWW), 2023

[C15] Zitao Liu, Qiongqiong Liu, Jiahao Chen, Shuyan Huang, Jiliang Tang, Weiqi Luo. "pyKT: A Python Library to Benchmark Deep Learning based Knowledge Tracing Models", In Proceedings of the 36th Conference on Neural Information Processing Systems (NeurIPS), 2022

[C16] Haitao Mao, Lixin Zou, Xiaokai Chu, Jiliang Tang, Shuaiqiang Wang, Wenwen Ye, Dawei yin. "A Large Scale Search Dataset for Unbiased Learning to Rank", In Proceedings of the 36th Conference on Neural Information Processing Systems (NeurIPS), 2022

[C17] Wentao Wang, Han Xu, Xiaorui Liu, Yaxin Li, Bhavani Thuraisingham, Jiliang Tang. "Imbalanced Adversarial Training with Reweighting", In Proceedings of the 2022 IEEE International Conference on Data Mining, 2022

[C18] Wei Jin, Xianfeng Tang, Haoming Jiang, Zheng Li, Danqing Zhang, Jiliang Tang, Ying Bin. "Condensing Graphs via One-Step Gradient Matching", In Proceedings of 28th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (SIGKDD), 2022

[C19] Wei Jin, Xiaorui Liu, Yao Ma, Charu Aggarwal, Jiliang Tang. "Feature Overcorrelation in Deep Graph Neural Networks: A New Perspective", In Proceedings of 28th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (SIGKDD), 2022

[C20] Hongzhi Wen*, Jiayuan Ding*, Wei Jin*, Yuying Xie, Jiliang Tang. "Graph Neural Networks for Multimodal Single-Cell Data Integration", In Proceedings of 28th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (SIGKDD), 2022

[C21] Wenqi Fan, Xiaorui Liu, Wei Jin, Xiangyu Zhao, Jiliang Tang, Qing Li. "Graph Trend Filtering Networks for Recommendation", In Proceedings of 45th International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR), 2022

[C22] Haochen Liu, Joseph Thekinen, Sinem Mollaoglu, Da Tang, Ji Yang, Youlong Cheng, Hui Liu and Jiliang Tang. "Toward Annotator Group Bias in Crowdsourcing", In Proceedings of the 60th Annual Meeting of the Association for Computational Linguistics (ACL), 2022

[C23] Wei Jin, Lingxiao Zhao, Shichang Zhang, Yozen Liu, Jiliang Tang and Neil Shah. "Graph Condensation for Graph Neural Networks", In Proceedings of International Conference on LearningRepresentations (ICLR), 2022

[C24] Wei Jin, Xiaorui Liu, Xiangyu Zhao, Yao Ma, Neil Shah and Jiliang Tang. "Automated Self-Supervised Learning for Graphs", In Proceedings of International Conference on Learning Representations (ICLR), 2022

[C25] Yao Ma, Xiaorui Liu, Neil Shah and Jiliang Tang. "Is Homophily a Necessity for Graph Neural Networks", In Proceedings of International Conference on Learning Representations (ICLR), 2022

[C26] Haochen Liu, Da Tang, Ji Yang, Xiangyu Zhao, Hui Liu, Jiliang Tang and Youlong Cheng. "Rating Distribution Calibration for Selection Bias Mitigation in Recommendations", In Proceedings of the 31st Web Conference (WWW), 2022

[C27] Xiaorui Liu, Jiayuan Jin, Wei Jin, Han Xu, Yao Ma, Zitao Liu and Jiliang Tang. "Graph Neural Networks with Adaptive Residual", In Proceedings of the 35th Conference on Neural Information Processing Systems (NeurIPS), 2021

[C28] Yao Ma, Xiaorui Liu, Tong Zhao, Yozen Liu, Jiliang Tang and Neil Shah. "A Unified View on Graph Neural Networks as Graph Signal Denoising", In Proceedings of the 2021 ACM on Conference on Information and Knowledge Management (CIKM), 2021

[C29] Han Xu, Xiaorui Liu, Yaxin Li, Anil Jain and Jiliang Tang. "To be Robust or to be Fair: Towards Fairness in Adversarial Training", In Proceedings of the 38th International Conference on Machine Learning (ICML), 2021

[C30] Xiaorui Liu, Wei Jin, Yao Ma, Yaxin Li, Hua Liu, Yiqi Wang, Ming Yan and Jiliang Tang. "Elastic Graph Neural Networks", In Proceedings of the 38th International Conference on Machine Learning (ICML), 2021

[C31] Yao Ma, Suhang Wang, Tyler Derr, Lingfei Wu and Jiliang Tang. "Graph Adversarial Attack via Rewiring", In Proceedings of the 27th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD), 2021

[C32] Xiaorui Liu, Yao Li, Rongrong Wang, Jiliang Tang, Ming Yan. "Linear Convergent Decentralized Optimization with Compression", International Conference on Learning Representations (ICLR), 2021.

[C33] Haochen Liu, Wei Jin, Hamid Karimi, Zitao Liu and Jiliang Tang. "The Authors Matter: Understanding and Mitigating Implicit Bias in Deep Text Classification", In Proceedings of the 59th Annual Meeting of the Association for Computational Linguistics (ACL), 2021

[C34] Wei Jin, Tyler Derr, Yiqi Wang, Yao Ma, Zitao Liu and Jiliang Tang. "Node Similarity Preserving Graph Convolutional Networks", in Proceedings of the 14th ACM Conference on Web Search and Data Mining (WSDM), 2021.

[C35] Wenqi Fan, Tyler Derr, Xiangyu Zhao, Yao Ma, Hui Liu, Jianping Wang, Jiliang Tang, and Qing Li. "Attacking Black-box Recommendations via Copying Cross-domain User Profiles", 37th IEEE International Conference on Data Engineering (ICDE), 2021.

[C36] Haochen Liu, Wentao Wang, Yiqi Wang, Hui Liu, Zitao Liu and Jiliang Tang. "Mitigating Gender Bias for Neural Dialogue Generation with Adversarial Learning", in Proceedings of the 2020 Conference on Empirical Methods in Natural Language Processing (EMNLP), 2020.

**[C37]** Wei Jin, Yao Ma, Xiaorui Liu, Xianfeng Tang, Suhang Wang and Jiliang Tang. "Graph Structure Learning for Robust Graph Neural Networks", In Proceedings of the 26th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD), 2020.

**[C38]** Hao Yuan, Jiliang Tang, Xia Hu and Shuiwang Ji. "XGNN: Towards Model-Level Explanations of Graph Neural Networks", In Proceedings of the 26th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD), 2020.

**[C39]** Yao Ma, Ziyi Guo, Zhaochun Ren, Dawei Yin, and Jiliang Tang. "Dynamic Graph Neural Networks", In Proceedings of the Annual ACM SIGIR Conference (SIGIR), 2020.

**[C40]** Xiaorui Liu, Yao Li, Jiliang Tang and Ming Yan. "A Double Residual Compression Algorithm for Efficient Distributed Learning", International Conference on Artificial Intelligence and Statistics (AISTATS), 2020.

**[C41]** Amin Javari, Tyler Derr, Pouya Esmalian, Jiliang Tang, and Kevin Chen-Chuan Chang. "ROSE: Role-based Signed Network Embedding", In Proceedings of the 29th International Conference on The World Wide Web (WWW), 2020.

**[C42]** Xiaoyang Wang, Yao Ma, Yiqi Wang, Wei Jin, Xin Wang, Jiliang Tang, Caiyan Jia and Jian Yu. "Traffic Flow Prediction via Spatial Temporal Graph Neural Network", Proceedings of the 29th International Conference on World Wide Web Companion (WWW), 2020.

**[C43]** Tyler Derr, Yao Ma, Wenqi Fan, Xiarui Liu, Charu Aggarwal, and Jiliang Tang. "Epidemic Graph Convolutional Network", In Proceedings of the 13th ACM International Conference on Web Search and Data Mining (WSDM), 160-168, 2020.

**[C44]** Tyler Derr, Cassidy Johnson, Yi Chang, and Jiliang Tang. "Balance in Signed Bipartite Networks", In Proceedings of the 28th ACM International Conference on Information and Knowledge Management (CIKM), 1221-1230, 2019.

**[C45]** Yao Ma, Suhang Wang, Charu C. Aggarwal, Jiliang Tang. "Graph Convolutional Networks with EigenPooling", Proceedings of 25th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (SIGKDD), 723-731, 2019.

**[C46]** Wenqi Fan Wenqi Fan, Yao Ma , Qing Li, Yuan He, Eric Zhao, Jiliang Tang, and Dawei Yin. "Graph Neural Networks for Social Recommendation", In Proceedings of the 28th International Conference on World Wide Web (WWW), 417-426, 2019.

**[C47]** Yao Ma, Charu Aggarwal, and Jiliang Tang. "Multi-dimensional Graph Convolutional Networks", Proceedings of the Seventeenth SIAM International Conference on Data Mining (SDM), 657-665, 2019.

**[C48]** Tyler Derr , Yao Ma, and Jiliang Tang. "Signed Graph Convolutional Networks ", In Proceedings of the 2018 IEEE International Conference on Data Mining (ICDM), 929-934, 2018.

**[C49]** Yao Ma, Zhaochun Ren, Ziheng Jiang, Jiliang Tang, and Dawei Yin. "Multidimensional network embedding with hierarchical structures", Proceedings of the 11th ACM Conference on Web Search and Data Mining (WSDM), 387-395, 2018.

**[C50]** Suhang Wang, Charu Aggarwal, Jiliang Tang, Huan Liu. "Attributed Signed Network Embedding", Proceedings of the 26th ACM International Conference on Information and Knowledge Management (CIKM), 137-146, 2017

**[C51]** Jundong Li, Harsh Dani, Xia Hu, Jiliang Tang, Yi Chang and Huan Liu. "Attributed Network Embedding for Learning in a Dynamic Environment", Proceedings of the 26th ACM International Conference on Information and Knowledge Management (CIKM), 387-396, 2017

**[C52]** Shiyu Chang, Yang Zhang, Jiliang Tang, Dawei Yin, Yi Chang, Mark Hasegawa-Johnson and Thomas Huang. "Streaming Recommender Systems", Proceedings of International World Wide Web Conference (WWW), 381-389, 2017.

**[C53]** Suhang Wang, Yilin Wang, Jiliang Tang, Kai Shu, Suhas Ranganath and Huan Liu. "What Your Images Reveal: Exploiting Visual Contents for Point-of-Interest Recommendation", Proceedings of International World Wide Web Conference (WWW), 391-400, 2017.

[**C54**] Suhang Wang, Jiliang Tang, Charu Aggarwal, Yi Chang and Huan Liu. "Signed Network Embedding in Social Media", Proceedings of the Seventeenth SIAM International Conference on Data Mining (SDM), 327-335, 2017

[**C55**] Dawei Yin, Yuening Hu, Jiliang Tang, Tim Daly Jr., Mianwei Zhou, Hua Ouyang, Jianhui Chen, Changsung Kang, Hongbo Deng, Chikashi Nobata, Jean-Marc Langlois, Yi Chang. "Ranking Relevance in Yahoo Search", In Proceedings of the 22nd annual ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD), 2016.

[**C56**] Shiyu Chang, Yang Zhang, Jiliang Tang, Dawei Yin, Yi Chang, Mark Hasegawa-Johnson, Thomas S. Huang. "Positive-Unlabeled Learning in Streaming Networks", In Proceedings of the 22nd annual ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD), 2016.

[**C57**] Jiliang Tang, Charu Aggarwal and Huan Liu. "Node Classification in Signed Social Networks", SIAM International Conference on Data Mining (SDM), 54-62, 2016.

[**C58**] Jiliang Tang, Charu Aggarwal and Huan Liu. "Recommendations in Signed Social Networks", the 25th International World Wide Web Conference (WWW), 31-40, 2016. (Acceptance Rate = 16.0%)

[**C59**] Shiyu Chang, Wei Han, Jiliang Tang, Guo-Jun Qi, Charu Aggarwal, and Thomas Huang. "Heterogeneous Network Embedding via Deep Architectures", ACM SIGKDD Conference on Knowledge Discovery and Data Mining(KDD), 119-128, 2015.

[**C60**] Jiliang Tang, Shiyu Chang, Charu Aggarwal, and Huan Liu. "Negative Link Prediction in Social Media". ACM International Conference on Web Search and Data Mining (WSDM), 87-96, 2015.

[**C61**] Xia Hu, Jiliang Tang, and Huan Liu. "Leveraging Knowledge across Media for Spammer Detection in Microblogging", In Proceedings of the 37th Annual ACM SIGIR Conference (SIGIR), 547-556, 2014.

[**C62**] Jiliang Tang, Xia Hu, Huiji Gao, and Huan Liu. "Unsupervised Feature Selection for Multi-view Data in Social Media", the 13th SIAM International Conference on Data Mining (SDM), 270-278, 2013.

[**C63**] Xia Hu, Lei Tang, Jiliang Tang, and Huan Liu. "Exploiting Social Relations for Sentiment Analysis in Microblogging", the 6th ACM International Conference on Web Search and Data Mining (WSDM), 537-546, 2013.

[**C64**] Jiliang Tang and Huan Liu. " Unsupervised Feature Selection for Linked Social Media Data", the Eighteenth ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD), 904-912, 2012.

[**C65**] Jiliang Tang, Huiji Gao, Huan Liu and Atish Das Sarma. "eTrust: Understanding Trust Evolution in an Online World", the Eighteenth ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD), 253-261, 2012.

[**C66**] Jiliang Tang and Huan Liu. "Feature Selection with Linked Data in Social Media", SIAM International Conference on Data Mining (SDM), 118-128, 2012.

TEACHING EXPERIENCE

**Lead Instructor**

- CSE482: Big Data Analytics, Michigan State University                    Fall 2017-2023
- CSE881: Data Mining, Michigan State University                         Spring 2017-2023

**Guest Lecturer**

- CSE 472/598: Social Media Mining, Arizona State University                    Fall 2015
- Yahoo Science Week, Yahoo                                                    July 2015

**Teaching Assistant**

- CSE 472/598: Social Media Mining, Arizona State University                    Spring 2013
- CSE 572: Data Mining, Arizona State University                                Spring 2014

**Tutorial Tutor**

- KDD2021: Graph Representation Learning,                                        August 2021
- KDD2021: Adversarial Robustness in Deep Learning,                             August 2021
- ICAPS2021: Trustworthy AI: A Computational Perspective,                       July 2021
- AAAI2021: Graph Neural Networks: Methods and Applications                     February 2021
- KDD2020: Multimodal Educational Data Mining in K-12 Education,                August 2020
- KDD2020: Adversarial Attacks and Defenses: Frontiers, Advances and Practice,  August 2020
- AAAI2020: Graph Neural Networks: Methods and Applications                     February 2020
- KDD2017: Feature Selection: A Data Perspective                                August 2017
- WWW2014: Trust in Social Computing                                            April 2014
- KDD2014: Recommendation in Social Media                                       August 2014
- Recsys2014: Personalized Location Recommendation in LBSNs                     October 2014

MENTORING      **Current Students at MSU**

- Shenglai Zeng, Michigan State University, PhD,                                08/2023 to present

- Xinnan Dai, Michigan State University, PhD,                                   08/2023 to present

- Jingzhe Liu, Michigan State University, PhD,                                  08/2023 to present

- Jay Revolinsky, Michigan State University, PhD,                               08/2023 to present

- Yuping Lin, Michigan State University, PhD,                                   08/2023 to present

- Yu Song, Michigan State University, PhD,                                      08/2023 to present

- Hanbing Wang, Michigan State University, PhD,                                 08/2023 to present

- Zhikai Chen, Michigan State University, PhD,                                  01/2023 to present

- Wenzhuo Tang, Michigan State University, PhD,                                 01/2023 to present

- Pengfei He, Michigan State University, PhD,                                   08/2022 to present

- Yingqian Cui, Michigan State University, PhD,                                 08/2022 to present

- Haitao Miao, Michigan State University, PhD,                                  08/2022 to present

- Hang Li, Michigan State University, PhD,                                      08/2022 to present

- Juanhui Li, Michigan State University, PhD,                                   08/2021 to present

- Jie Ren, Michigan State University, PhD,                                      08/2021 to present

- Jiayuan Ding, Michigan State University, PhD,                                 08/2021 to present

- Haoyu Han, Michigan State University, PhD,                                    08/2021 to present

- Hongzhi Wen, Michigan State University, PhD,          08/2021 to present

- Yuxuan Wan, Michigan State University, PhD,          08/2021 to present

- Harry Shomer, Michigan State University, PhD,          08/2020 to present

- Yaxin Li, Michigan State University, PhD,          08/2019 to present

- Wentao Wang, Michigan State University, PhD,          01/2019 to present

- Han Xu, Michigan State University, PhD,          08/2018 to present

**Former Students and Visiting Scholars at MSU**

- Jamell Dacon (PhD, 2023), First Employment: Assistant Professor, Morgan State University

- Jin Wei (PhD, 2023). First Employment: Assistant Professor, Emory University

- Yiqi Wang (PhD, 2022). First Employment: Assistant Professor, China

- Xiaorui Liu (PhD, 2022). First Employment: Tenure-track Assistant Professor, NC State

- Haochen Liu (PhD, 2022). First Employment: Senior Research Scientist, Fidelity Inc

- Xiangyu Zhao (PhD, 2021). First Employment: Tenure-track Assistant Professor, City University of Hong Kong

- Yao Ma (PhD, 2021). Current Employment: Tenure-track Assistant Professor, Rensselaer Polytechnic Institute

- Hamid Karimi (PhD, 2021). First Employment: Tenure-track Assistant Professor, Utah State University

- Tyler Derr (PhD, 2020). First Employment: Tenure-track Assistant Professor, Vanderbilt University

- Zhiwei Wang (PhD, 2020). First Employment: Research Scientist, LinkedIn

- Wenqi Fan (Visiting PhD and Postdoc, 2017-2020). Current Employment: Assistant Professor, The Hong Kong Polytechnic University

- Xiaoyang Wang, Visiting PhD, Research Scientist at Baidu In

- Meznah Almutairy, Postdoc, Faculty at Al-Imam Muhammad Ibn Saud Islamic University

- Jiangtao Huang, Visiting Scholar, Associate Professor at Guangxi Normal University

- Xin Wang, Visiting Scholar, Assistant Professor at Jilin University

- Daniel Ofori-Dankwa, MS, Microsoft

- Ibrahim Ahmed, MS, Crowe

- Bryan Hendryx, Undergraduate, Crowe

- Pegah Varghaei, Undergraduate, PhD student in CMSE at MSU

- Hansheng Zhao, Undergraduate, Indeed

- Mitansh Madan, Undergraduate, MSU

- Hannah Striebel, Undergraduate, MSU

- Cassidy Johnson, Undergraduate, University of the Pacific

Services **Conference/Journal Organizer**

- The associate editor of ACM Transactions on Knowledge Discovery from Data (TKDD)
- The information director of ACM Transactions on Knowledge Discovery from Data (TKDD)
- The associate editor of ACM Transactions on Information Systems (TOIS)
- The associate editor of IEEE Transactions on Knowledge and Data Engineering (TKDE)
- Doctor Forum Chair of IEEE International Conference on Data Mining, 2023
- PC Chair of ACM International Conference on Web Search and Data Mining, 2022
- Proceeding Co-chair of ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, 2022
- Doctor Forum Chair of SIAM International Conference on Data Mining, 2022
- Doctor Forum Chair of IEEE International Conference on Data Mining, 2022
- Proceeding Co-chair of ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, 2021
- Workshop Co-chair of ACM SIGIR, 2020
- Proceeding Co-chair of ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, 2020
- Workshop Co-chair of ACM International Conference on Web Search and Data Mining, 2020
- Proceeding Co-chair of ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, 2019
- Vice Programming Chair of IEEE BIGDATA, 2018
- The secretary of the SIAM activity group on data mining and analytics
- Proceeding Co-chair of ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, 2018
- Sponsorship Chair of SIAM International Conference on Data Mining, 2018
- Workshop Co-chair of ACM International Conference on Web Search and Data Mining, 2018
- Industry Sponsorship Committee Chair of International Conference on Social Computing, Behavioral-Cultural Modeling & Prediction and Behavior Representation in Modeling and Simulation, 2017
- Job Matching Chair of ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, 2017
- Sponsorship Chair of SIAM International Conference on Data Mining, 2017
- Award Coordinator of ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, 2016
- Session Chair of ACM SIGKDD Best Dissertation Presentation, 2016
- Post Chair of ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, 2016

**(Senior) Program Committee Member**

- ACM SIGKDD International Conference on Knowledge Discovery and Data Mining(KDD), 2015-2023

- SIAM on Data Mining (SDM), 2019-2023
- Conference on Neural Information Processing Systems, 2019-2023
- The International Conference on Learning Representations, 2019-2023
- International Joint Conferences on Artificial Intelligence (IJCAI), 2013-2023
- International World Wide Web Conference (WWW), 2015-2023
- Tenth ACM International Conference on Web Search and Data Mining (WSDM), 2015-2023
- AAAI Conference on Artificial Intelligence (AAAI), 2015-2023
- The Annual Meeting of the Association for Computational Linguistics (ACL), 2016-2023
- the 11th ACM Recommender Systems Conference (Recsys), 2017-2023
- The International AAAI Conference on Weblogs and Social Media (ICWSM), 2014-2023
- ACM SIGIR conference on Research and development in information retrieval (SIGIR), 2016-2023
- AAAI Conference on Artificial Intelligence (AAAI), 2016-2023
- ACM International Conference on Information and Knowledge Management (CIKM), 2015-2023
- Conference on Empirical Methods on Natural Language Processing (EMNLP), 2015-2023

**Journal Reviewer**

- Nature
- Nature Method
- Proceedings of the National Academy of Sciences of the United States of America (PNAS)
- ACM Transactions on Interactive Intelligent Systems (TiiS)
- Journal of Management Information Systems
- IEEE Transactions on Computational Social Systems
- Journal of Complex Network
- Social Networks
- Computers in Human Behavior
- ACM Computing Survey (CSUR)
- IEEE Transactions on Knowledge and Data Engineering (TKDE)
- ACM Transactions on Knowledge Discovery from Data (TKDD)
- ACM Transactions on Information Systems (TOIS)
- IEEE Transactions on Multimedia (TMM)
- IEEE Transactions on Image Processing (TIP)
- IEEE Transactions on Neural Networks and Learning Systems (TNNLS)
- ACM Transactions on Intelligent Systems and Technology (TIST)
- ACM Transactions on the Web (TWEB)
- Data Mining and Knowledge Discovery (DMKD)
- IEEE Transactions on Big Data (TBD)
- Journal of Artificial Intelligence Research (JAIR)
- Journal of Machine Learning Research (JMLR)
- Knowledge and Information Systems (KAIS)
- Social Network Analysis and Mining (SNAM)
- IEEE Intelligent System