Wei Jin

CONTACT INFORMATION	400 Dowman Drive	Homepage: http://cs.emory.edu/~wjin30
	Atlanta, Georgia 30307	Twitter: https://twitter.com/weisshelter
	Office: Math & Science Center	GitHub: https://github.com/ChandlerBang
	E-mail: wei.jin At emory.edu	

EMPLOYMENT HISTORY

Emory University   08/2023 – Present
Assistant Professor, Department of Computer Science

RESEARCH INTERESTS

- Deep Learning on Graphs
- Data-Centric AI, Data-Efficient Learning
- Trustworthy AI: Robustness, Interpretability, Privacy, and Fairness
- AI for Science, Healthcare, and Epidemiology

EDUCATION

Michigan State University, USA   08/2019 – 06/2023

- Ph.D., Computer Science and Engineering
- Advisor: Dr. Jiliang Tang

Zhejiang University, China   09/2015 – 06/2019

- Bachelor of Engineering, Electronic Information Engineering

INTERNSHIP EXPERIENCE

Search Mission Understanding Team, Amazon   09/2022 – 05/2023
Applied Scientist Intern

Snap Research, Snap Inc.   05/2022 – 08/2022
Research Intern

Search Mission Understanding Team, Amazon   09/2021 – 12/2021
Applied Scientist Intern

Snap Research, Snap Inc.   05/2021 – 08/2021
Research Intern

HONORS AND AWARDS

- KAUST Rising Stars in AI   2024
- AAAI New Faculty Highlights   2024
- Runner-up of INNS Doctoral Dissertation Award   2023
- Fitch H. Beach Award (Highest Honor at MSU College of Engineering)   2023
- SDM Best Poster Award (Honorable Mention)   2023
- MSU Outstanding Graduate Student Award   2023
- Snap Research Fellowship   2022
- NeurIPS Multimodal Single-Cell Integration Across Time, Individuals, and Batches   2022
  - Silver Medal in Kaggle, Top 2% ≈ 24/1266
- 2nd Place in NeurIPS OGB-LSC Competition, MAG240M Track   2022
- WSDM Outstanding Program Committee Member Award   2022
- 1st Place in NeurIPS Single-Cell Multimodal Data Integration, Modality Prediction   2021

- Most Influential KDD and WWW Papers by Paper Digest   2020
- 10th Place in KDDCup Graph Injection Adversarial Attack & Defense   2020
- Excellent Student of High Education in Zhejiang Province   2019
- Outstanding Graduate in Zhejiang Univeristy   2019
- Provincial Government Scholarship   2018
- Top Ten Outstanding Students of Lantian Academy, Zhejiang University (top 10/2000+)   2017
- 1st Place in 400m Hurdles at Zhejiang University Sports Meet   2016
- 1st Place in 400m at Zhejiang University Sports Meet   2015, 2016
- 1st Place in 4*400m Relay Race at Zhejiang University Sports Meet   2015, 2016

OPEN-SOURCE
PROJECTS

- **EpiLearn** [Link]   08/2024 – Present
  A Python toolkit of machine learning in epidemiology
  The first library to support machine learning for epidemic modeling

- **DeepRobust** [Link]   05/2020 – Present
  A PyTorch adversarial library of attack and defense methods for images and graphs
  The first library of adversarial robustness to support graph data
  Received 60k+ downloads, 900+ Github stars

- **DANCE** [Link]   10/2022 – Present
  A Python toolkit to support deep learning for single-cell gene expression at scale
  The first benchmark of computational models for single cell analysis
  Received 8k+ downloads

PUBLICATION

Google Scholar: https://scholar.google.com/citations?user=eWow24EAAAAJ&hl=en
- **Impact: 3k+** citations, h-index: **25**

Book Translation

- Chinese Version of "Deep Learning on Graphs" (Cambridge University Press)
  Yiqi Wang, **Wei Jin**.
  China Machine Press, 2021
  Best Selling Book in JD.com
  Invited to give eight lectures based on this book to thousands of attendees

Invited Book Chapter

- "Graph Neural Networks: Self-supervised Learning"
  Yu Wang, **Wei Jin**, Tyler Derr.
  In "Graph Neural Networks: Foundations, Frontiers, and Applications". **Springer**. Chapter 18.

Tutorials

- "Augmentation Methods for Graph Learning"
  Tong Zhao, Kaize Ding, **Wei Jin**, Gang Liu, Meng Jiang, Neil Shah.
  SIAM International Conference on Data Mining (**SDM**), 2023

- "Graph Neural Networks: Models and Applications"
  Yiqi Wang, **Wei Jin**, Yao Ma, Jiliang Tang.
  SIAM International Conference on Data Mining (**SDM**), 2021

- "Graph Representation Learning: Foundations, Methods, Applications and Systems"
  Wei Jin, Yao Ma, Yiqi Wang, Xiaorui Liu, Jiliang Tang, Yukuo Cen, Jiezhong Qiu, Jie Tang, Chuan Shi, Yanfang Ye, Jiawei Zhang, Philip S. Yu.
  ACM SIGKDD Conference on Knowledge Discovery and Data Mining (**KDD**), 2021

- "Graph Neural Networks: Models and Applications"
  Yao Ma, **Wei Jin**, Yiqi Wang, Tyler Derr, Jiliang Tang.
  AAAI Conference on Artificial Intelligence (**AAAI**), 2021.

- "Adversarial Attacks and Defenses: Frontiers, Advances and Practice"
  Han Xu, Yaxin Li, **Wei Jin**, Jiliang Tang.
  ACM SIGKDD Conference on Knowledge Discovery and Data Mining (**KDD**), 2020

- "Graph Neural Networks: Models and Applications"
  Yao Ma, **Wei Jin**, Jiliang Tang, Lingfei Wu, Tengfei Ma.
  AAAI Conference on Artificial Intelligence (**AAAI**), 2020

Journal Papers

- "Graph Data Augmentation for Graph Machine Learning: A Survey"
  Tong Zhao, **Wei Jin**, Yingheng Wang, Gang Liu, Yozen Liu, Stephan Gunnemann, Neil Shah, Meng Jiang.
  IEEE Data Engineering Bulletin, accepted.

- "INS-GNN: Improving Graph Imbalance Learning with Self-Supervision"
  Xin Juan, Fengfeng Zhou, Wentao Wang, **Wei Jin**, Jiliang Tang, Xin Wang.
  Information Sciences, 2023

- "Adversarial Attacks and Defenses on Graphs"
  Wei Jin, Yaxin Li, Han Xu, Yiqi Wang, Shuiwang Ji, Charu Aggarwal, Jiliang Tang.
  ACM SIGKDD Explorations Newsletter (**SIGKDD Explorations**), 2021.

Conference Papers

* indicates equal contribution

- "A Review of Graph Neural Networks in Epidemic Modeling"
  Zewen Liu*, Guancheng Wan*, B. Aditya Prakash, Max S. Y. Lau, **Wei Jin**
  ACM SIGKDD Conference on Knowledge Discovery and Data Mining (**SIGKDD**), 2024

- "Investigating Out-of-Distribution Generalization of GNNs: An Architecture Perspective"
  Kai Guo, Hongzhi Wen, Wei Jin, Yaming Guo, Jiliang Tang, Yi Chang
  ACM SIGKDD Conference on Knowledge Discovery and Data Mining (**SIGKDD**), 2024

- "Navigating Complexity: Toward Lossless Graph Condensation via Expanding Window Matching"
  Yuchen Zhang, Tianle Zhang, Kai Wang, Ziyao Guo, Yuxuan Liang, Xavier Bresson, **Wei Jin**, Yang You
  International Conference on Machine Learning (**ICML**), 2024

- "A Comprehensive Survey on Graph Reduction: Sparsification, Coarsening, and Condensation"
  Mohammad Hashemi*, Shengbo Gong*, Juntong Ni, Wenqi Fan, B. Aditya Prakash, **Wei Jin**
  International Joint Conference on Artificial Intelligence (**IJCAI**), 2024

- "Globally Interpretable Graph Learning via Distribution Matching"
  Yi Nian, Yurui Chang, **Wei Jin**, Lu Lin.
  International World Wide Web Conference (**WWW**), 2024.

- "CellPLM: Pre-training of Cell Language Model Beyond Single Cells"
  Hongzhi Wen, Wenzhuo Tang, Xinnan Dai, Jiayuan Ding, **Wei Jin**, Yuying Xie, Jiliang Tang
  International Conference on Learning Representations (**ICLR**), 2024

- "Label-free Node Classification on Graphs with Large Language Models (LLMs)"
  Zhikai Chen, Haitao Mao, Hongzhi Wen, Haoyu Han, **Wei Jin**, Haiyang Zhang, Hui Liu, Jiliang Tang
  International Conference on Learning Representations (**ICLR**), 2024

- "Amazon-M2: A Multilingual Multi-locale Shopping Session Dataset for Recommendation and Text Generation"
  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
  Neural Information Processing Systems (**NeurIPS**), Track on Datasets and Benchmarks, 2023

- "Demystifying Structural Disparity in Graph Neural Networks: Can One Size Fit All?"
  Haitao Mao, Zhikai Chen, **Wei Jin**, Haoyu Han, Yao Ma, Tong Zhao, Neil Shah, Jiliang Tang.
  Neural Information Processing Systems (**NeurIPS**), 2023

- "Single-Cell Multimodal Prediction via Transformers"
  Wenzhuo Tang, Hongzhi Wen, Renming Liu, Jiayuan Ding, **Wei Jin**, Yuying Xie, Hui Liu, Jiliang Tang.
  ACM Conference on Information and Knowledge Management (**CIKM**), 2023

- "Enhancing Graph Representations Learning with Decorrelated Propagation"
  Hua Liu*, Haoyu Han*, **Wei Jin**, Xiaorui Liu, Hui Liu.
  ACM SIGKDD Conference on Knowledge Discovery and Data Mining (**KDD**), 2023

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

- "Empowering Graph Representation Learning with Test-Time Graph Transformation"
  Wei Jin, Tong Zhao, Jiayuan Ding, Yozen Liu, Jiliang Tang, Neil Shah.
  International Conference on Learning Representations (**ICLR**), 2023

- "Jointly Attacking Graph Neural Network and its Explanations"
  Wenqi Fan*, Han Xu*, **Wei Jin**, Xiaorui Liu, Xianfeng Tang, Suhang Wang, Qing Li, Jiliang Tang, Jianping Wang, Charu Aggarwal
  IEEE International Conference on Data Engineering (**ICDE**), 2023

- "Condensing Graphs via One-Step Gradient Matching"
  Wei Jin, Xianfeng Tang, Haoming Jiang, Zheng Li, Danqing Zhang, Jiliang Tang, Bing Yin.
  ACM SIGKDD Conference on Knowledge Discovery and Data Mining (**KDD**), 2022

- "Feature Overcorrelation in Deep Graph Neural Networks: A New Perspective"
  Wei Jin, Xiaorui Liu, Yao Ma, Charu Aggarwal, Jiliang Tang.
  ACM SIGKDD Conference on Knowledge Discovery and Data Mining (**KDD**), 2022

- "Graph Neural Networks for Multimodal Single-Cell Data Integration"
  Hongzhi Wen*, Jiayuan Ding*, **Wei Jin***, Yiqi Wang*, Yuying Xie, Jiliang Tang.
  ACM SIGKDD Conference on Knowledge Discovery and Data Mining (**KDD**), 2022
  1st Place in NeurIPS'21 Single-Cell Multimodal Data Integration, Modality Prediction

- "Graph Trend Networks for Recommendations"
  Wenqi Fan, Xiaorui Liu, **Wei Jin**, Xiangyu Zhao, Jiliang Tang, Qing Li.
  ACM SIGIR Conference on Research and Development in Information Retrieval (**SIGIR**), 2022

- "Graph Condensation for Graph Neural Networks"
  Wei Jin, Lingxiao Zhao, Shichang Zhang, Yozen Liu, Jiliang Tang, Neil Shah.
  International Conference on Learning Representations (**ICLR**), 2022

- "Automated Self-Supervised Learning for Graphs"
  Wei Jin, Xiaorui Liu, Xiangyu Zhao, Yao Ma, Neil Shah, Jiliang Tang.
  International Conference on Learning Representations (**ICLR**), 2022

- "From Stars to Subgraphs: Uplifting Any GNN with Local Structure Awareness"
  Lingxiao Zhao, **Wei Jin**, Leman Akoglu, Neil Shah.
  International Conference on Learning Representations (**ICLR**), 2022

- "Localized Graph Collaborative Filtering"
  Yiqi Wang, Chaozhuo Li, Mingzheng Li, **Wei Jin**, Yuming Liu, Hao Sun, Xing Xie, Jiliang Tang.
  SIAM International Conference on Data Mining (**SDM**), 2022

- "Towards Robust Graph Neural Networks for Noisy Graphs with Sparse Labels"
  Enyan Dai, **Wei Jin**, Hui Liu, Suhang Wang.
  ACM Conference on Web Search and Data Mining (**WSDM**), 2022

- "Graph Neural Networks with Adaptive Residual"
  Xiaorui Liu, Jiayuan Ding, **Wei Jin**, Han Xu, Yao Ma, Zitao Liu, Jiliang Tang.
  Neural Information Processing Systems (**NeurIPS**), 2021

- "Graph Feature Gating Networks"
  Wei Jin, Xiaorui Liu, Yao Ma, Tyler Derr, Charu Aggarwal, Jiliang Tang.
  ACM Conference on Information and Knowledge Management (**CIKM**), 2021

- "Graph Representation Learning: Foundations, Methods, Applications and Systems"
  Wei Jin, Yao Ma, Yiqi Wang, Xiaorui Liu, Jiliang Tang, Yukuo Cen, Jiezhong Qiu, Jie Tang,
  Chuan Shi, Yanfang Ye, Jiawei Zhang, Philip S. Yu.
  ACM SIGKDD Conference on Knowledge Discovery and Data Mining (**KDD**), 2021

- "Elastic Graph Neural Networks"
  Xiaorui Liu*, **Wei Jin***, Yao Ma, Yaxin Li, Hua Liu, Yiqi Wang, Ming Yan, Jiliang Tang.
  International Conference on Machine Learning (**ICML**), 2021
  Oral (3% ≈ 166/5513).

- "The Authors Matter: Understanding and Mitigating Implicit Bias in Deep Text Classification"
  Haochen Liu, **Wei Jin**, Hamid Karimi, Zitao Liu, Jiliang Tang.
  Association for Computational Linguistics (**ACL**), Findings of ACL, 2021

- "DeepRobust: A Platform for Adversarial Attacks and Defenses"
  Yaxin Li*, **Wei Jin***, Han Xu, Jiliang Tang.
  In Demonstrations Program of AAAI Conference on Artificial Intelligence (**AAAI**), 2021.
  [Library Link]: https://deeprobust.readthedocs.io/en/latest/, with 900+ Github stars

- "Node Similarity Preserving Graph Convolutional Networks"
  Wei Jin, Tyler Derr, Yiqi Wang, Yao Ma, Zitao Liu, Jiliang Tang.
  ACM Conference on Web Search and Data Mining (**WSDM**), 2021.

- "Graph Mining with Graph Neural Networks"
  Wei Jin.
  ACM Conference on Web Search and Data Mining (**WSDM**), 2021.

- "Adversarial Attacks and Defenses: Frontiers, Advances and Practice"
  Han Xu, Yaxin Li, **Wei Jin**, Jiliang Tang.
  ACM SIGKDD Conference on Knowledge Discovery and Data Mining (**KDD**), 2020

- "Graph Structure Learning for Robust Graph Neural Networks"
  Wei Jin, Yao Ma, Xiaorui Liu, Xianfeng Tang, Suhang Wang, Jiliang Tang.
  ACM SIGKDD Conference on Knowledge Discovery and Data Mining (**KDD**), 2020
  Selected as Most Influential Paper in KDD 2020 by Paper Digest [Link]

- "Traffic Flow Prediction via Spatial Temporal Graph Neural Network"
  Xiaoyang Wang, Yao Ma, Yiqi Wang, **Wei Jin**, Xin Wang, Jiliang Tang, Caiyan Jia, Jian Yu.
  International World Wide Web Conference (**WWW**), 2020
  Selected as Most Influential Paper in WWW 2020 by Paper Digest [Link]

TEACHING
EXPERIENCE

- Instructor for *Machine Learning for Infectious Disease Modeling* at the Summer Institute
  in Statistics and Modeling in Infectious Diseases (SISMID)   2024
- Instructor for CS470 Data Mining at Emory University   2024
- Instructor for CS570 Data Mining at Emory University   2023
- Conference Tutors for KDD'24, SDM'23, KDD'21, SDM'21, AAAI'21, KDD'20, AAAI'20
  - Topics: Graph Neural Networks, Adversarial Robustness, Computational Epidemiology
- Primary Instructor for Deep Learning on Graphs at *shenlanxueyuan.com*   2022
  - Lectures on "Deep Learning on Graphs: Foundations"
  - Lectures on "Graph Neural Networks in Practice"
  - Designing eight hands-on tutorials
  - Attracting thousands of attendees

SERVICES

Organizer

- The Web Conference Data-centric Artificial Intelligence Workshop   2024
- CIKM Trustworthy AI Workshop   2024
- KDD Cup: A Multilingual Recommendation Challenge   2023

Journal Editor

- Topic Editor, Frontiers in Big Data   2024

Senior Program Committee Member

- International Conference on Pattern Recognition (ICPR)   2024
- AAAI Conference on Artificial Intelligence (AAAI)   2022-2023

Conference Session Chair

- SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)   2023
- International Conference on Neural Information Processing (ICONIP)   2020

Program Committee Member & Conference Reviewer

- European Conference on Machine Learning and Principles and Practice of
  Knowledge Discovery in Databases (ECML-PKDD)   2024
- International Conference on Machine Learning (ICML)   2023-2024
- SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)   2022-2024
- The Web Conference (WWW)   2023
- International Conference on Artificial Intelligence and Statistics (AISTATS)   2023
- Conference on Web Search and Data Mining (WSDM)   2021-2023

- Conference on Neural Information Processing Systems (NeurIPS)   2022
- International Conference on Learning Representations (ICLR)   2022
- International Joint Conference on Artificial Intelligence (IJCAI)   2021-2022
- Conference on Information and Knowledge Management (CIKM)   2020-2021
- International Conference on Neural Information Processing (ICONIP)   2020-2021
- AAAI 2020 Workshop on Artificial Intelligence for Education (AI4EDU)   2020

Journal Reviewer

- Transactions on Pattern Analysis and Machine Intelligence (TPAMI)
- Neural Networks
- Transactions on Knowledge and Data Engineering (TKDE)
- IEEE Transactions on Neural Networks and Learning Systems (TNNLS)
- Transactions on Knowledge Discovery from Data (TKDD)
- Neurocomputing
- Information Sciences
- IEEE Transactions on Computational Social Systems (TCSS)
- ACM Transactions on Privacy and Security (TOPS)
- Social Network Analysis and Mining (SNAM)
- Transactions on Signal and Information Processing over Networks (TSIPN)

Outreach Activity (Mentoring & Volunteering)

- Mentoring at Emory Data Science Club Events   2024
- UNLV & Google ExploreCSR Program   2023
    - Mentoring historically-underrepresented undergraduate students at UNLV
- Women in KDD Workshop: Towards Gender Equity in Tech   2022
- Undergraduate Consortium at KDD   2022
- SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)   2022
- MSU COGS 13th Annual Graduate Academic Conference   2021
- International Conference on Machine Learning (ICML)   2020-2021
- Conference on Neural Information Processing Systems (NeurIPS)   2020
- SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)   2020
- AAAI Conference on Artificial Intelligence (AAAI)   2020