

Kaiwen Dong

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Research Interests

My research interests are in graph machine learning, representation learning for tabular data, and data mining. I focus on enhancing machines' ability to effectively capture complex relationships within real-world data. My work aims to improve the expressiveness and scalability of these models, enabling their seamless deployment in industrial applications for real-world problems. Additionally, I am interested in advancing representation learning for tabular data, especially in the context of relational databases. I also develop data-driven applications to support better decision-making.

Education

University of Notre Dame , Notre Dame, IN, US Ph.D. Candidate in Computer Science and Engineering Advisor: Prof. Nitesh V. Chawla (ACM & IEEE & AAAI & AAAS Fellow)	Aug 2021 – June 2025 (Expected)
University of Illinois at Urbana-Champaign , Champaign, IL, US Master of Science in Statistics	Aug 2016 – May 2018
Sichuan University , Chengdu, China Bachelor of Science in Mathematics	Aug 2012 – July 2016

Publications [\[Google Scholar\]](#)

[Selected Peer-Reviewed Publications](#)

- [Neurips'24]** [Pure Message Passing Can Estimate Common Neighbor for Link Prediction](#)
Kaiwen Dong, Zhichun Guo, Nitesh V. Chawla
The Conference on Neural Information Processing Systems, 2024
- [LoG'22]** [FakeEdge: Alleviate Dataset Shift in Link Prediction](#)
Kaiwen Dong, Yijun Tian, Zhichun Guo, Yang Yang, Nitesh V. Chawla
The Learning on Graphs Conference, 2022
- [ECML PKDD'21]** [An Optimized NL2SQL System for Enterprise Data Mart](#)
Kaiwen Dong, Kai Lu, Xin Xia, David Cieslak, Nitesh V. Chawla
The European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases, 2021
- [AAAI'23]** [Heterogeneous Graph Masked Autoencoders](#)
Yijun Tian, **Kaiwen Dong**, Chunhui Zhang, Chuxu Zhang, Nitesh V. Chawla
The AAAI Conference on Artificial Intelligence, 2023

[Preprints and Under Submissions](#)

- [KDD'25]** [Transaction Categorization in QuickBooks with Relational Deep Learning](#)
Kaiwen Dong, Xiang Gao, Ayan Acharya, Maria Kissa, Hilaf Hasson, Mauricio Flores, Nitesh V. Chawla, Kamalika Das
Under Submission, 2025
- [TKDD]** [CORE: Data Augmentation for Link Prediction via Information Bottleneck](#)
Kaiwen Dong, Zhichun Guo, Nitesh V. Chawla
Under Submission
- [TMLR]** [You do not have to train Graph Neural Networks at all on text-attributed graphs](#)
Kaiwen Dong, Zhichun Guo, Nitesh V. Chawla
Under Submission, 2025
- [TMLR]** [Universal Link Predictor By In-Context Learning on Graphs](#)
Kaiwen Dong, Haitao Mao, Zhichun Guo, Nitesh V. Chawla
Under Submission, 2025

[ICLR'25]	Node Duplication Improves Cold-start Link Prediction Zhichun Guo, Tong Zhao, Yozen Liu, Kaiwen Dong , William Shiao, Mingxuan Ju, Neil Shah, Nitesh V. Chawla <i>Under Submission, 2025</i>
[AAAI'25]	MolX: Enhancing Large Language Models for Molecular Learning with A Multi-Modal Extension Le Huy Khiem, Zhichun Guo, Kaiwen Dong , Xiaobao Huang, Bozhao Nan, Roshni Iyer, Xiangliang Zhang, Olaf Wiest, Wei Wang, Nitesh V. Chawla <i>Under Submission, 2025</i>

Professional Experience

Research Assistant University of Notre Dame Worked on robustness and efficiency of graph models to tackle link prediction tasks Advisor: Prof. Nitesh V. Chawla	August 2022 – Present
Research Scientist Intern Intuit Inc. Worked on representation learning for tabular data and developing a transaction categorization model within relational databases Mentors: Dr. Kamalika Das and Dr. Xiang Gao	April 2024 – July 2024
Data Scientist Aunalytics Inc. Worked on developing systems converting natural language to SQL Supervisor: Dr. David Cieslak	June 2018 – July 2021

Teaching Experience

CSE 21312 Data Structures (Prof. Matthew Morrison)	Fall 2021
<ul style="list-style-type: none"> • Role: Teaching Assistant • Duties: Review assignments, Q&A during office hours, Grade 	

Professional Services

Conference Reviewer

International Conference on Learning Representations (ICLR)	2025
International Conference on Machine Learning (ICML)	2025
Neural Information Processing Systems (NeurIPS)	2024
SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)	2025, 2024
Conference on Information and Knowledge Management (CIKM)	2024
International Conference on Artificial Intelligence and Statistics (AISTATS)	2025

Journal Invited Reviewer

ACM Transactions on Knowledge Discovery from Data (TKDD)	2023
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