

Kaiwen Dong

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Research Interests

My research interests lie in graph machine learning, representation learning, and data mining. My research aims to enhance machines with greater capability of modeling real-world data in graph structures. Primarily, I focus on strengthening the model's expressiveness of capturing complex relationships and advancing its application in the link prediction task. Furthermore, I am interested in the application of molecular representation learning to propel advancements in chemical science. Additionally, I also build data-driven applications designed to helping people make better decisions.

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 – Present
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 link prediction Advisor: Prof. Nitesh V. Chawla	August 2022 – Present
Research Scientist Intern Intuit Inc. Worked on transaction categorization with relational databases Mentors: Dr. Kamalika Das and Dr. Xiang Gao	April 2024 – July 2024
Data Scientist Aunalytics Inc. Worked on systems converting natural language to SQL Supervisor: Dr. David Cieslak	June 2018 – July 2021

Teaching Experience

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

Conference Reviewer International Conference on Learning Representations (ICLR) Neural Information Processing Systems (NeurIPS) SIGKDD Conference on Knowledge Discovery and Data Mining (KDD) Conference on Information and Knowledge Management (CIKM) International Conference on Artificial Intelligence and Statistics (AISTATS)	2025 2024 2025, 2024 2024 2025
Journal Invited Reviewer ACM Transactions on Knowledge Discovery from Data (TKDD)	2023

Last updated on Oct. 12, 2024