Yue Dai

PhD Candidate · Department of Computer Science

University of Pittsburgh, Pittsburgh, PA 15260

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Education

University of Pittsburgh — *Pittsburgh, PA 15260*

PhD student in Computer Science — *2018/09 - present*

- Advisor: Dr. Youtao Zhang
- Co-Advisor: Dr. Xulong Tang

University of Maryland, College Park — *College Park, MD 20742*

MS of Science in Telecommunication — *2015/09 - 2017/05*

- Advisor: Dr. Michael Dellomo

Beihang University — *Beijing, China 100191*

Bachelor of Engineering in Electrical Engineering and Automation — *2010/09-2014/06*

Professional Experience

2021-2024	**Graduate Research Assistant**, Department of Computer Science, University of Pittsburgh
2018-2022	**Graduate Teaching Assistant**, Department of Computer Science, University of Pittsburgh
2016	**Graduate Research Assistant**, Department of Computer Science, University of Maryland
2014	**Intern**, Information Department of Research Center of Automatic Control and Logistic Technology Engineering, Beijing Research Institute of Automation for Machinery Industry
2014	**Undergraduate Research Assistant**, Department of Electrical Engineering and Automation, Beihang University
2013	**Intern**, Department of Automatic System of Simons (China) LTD., Beijing Branch

Publications

**the authors contribute equally*

Yue Dai, Xulong Tang, Youtao Zhang. 2025. Cascade: A Dependency-Aware Efficient Training Framework for Temporal Graph Neural Network. 2025 ACM International Conference on Architectural Support for Programming Languages and Operating Systems (**ASPLOS'2025**)

Yue Dai*, Liang Liu*, Xulong Tang, Youtao Zhang, Jun Yang. MemStranding: Adversarial attacks on temporal graph neural networks. (Under Review, The Thirteenth International Conference on Learning Representations (**ICML'2025 Under Review**))

Sheng Li, Qitao Tan, **Yue Dai**, Zhenglun Kong, Tianyu Wang, Jun Liu, Ao Li, Ninghao Liu, Yufei Ding, Xulong Tang, Geng Yuan. 2025. Mutual Effort for Efficiency: A Similarity-based Token Pruning for Vision Transformers in Self-Supervised Learning. The Thirteenth International Conference on Learning Representations (**ICLR'2025**)

Yue Dai, Youtao Zhang, Xulong Tang. 2023. CEGMA: Coordinated elastic graph matching acceleration for graph matching networks. 2023 IEEE International Symposium on High-Performance Computer Architecture (**HPCA'2023**).

Yue Dai, Xulong Tang, Youtao Zhang. 2023. FlexGM: An Adaptive Runtime System to Accelerate Graph Matching Networks on GPUs. 2023 IEEE 41st International Conference on Computer Design (**ICCD'2023**).

Yue Dai*, Sheng Li*, Geng Yuan*, Youtao Zhang, Yanzhi Wang, Xulong Tang. 2023. Smartfrz: An efficient training framework using attention-based layer freezing. The 11th International Conference on Learning Representations (**ICLR'2023 *Spotlight***).

Yue Dai, Xulong Tang, Youtao Zhang. 2022. An efficient segmented quantization for graph neural networks. CCF Transactions on High Performance Computing, 4(4), 461-473.(**THPC'2022**)

Zhexiong Liu*, Meiqi Guo*, **Yue Dai***, Diane Litman. 2022. ImageArg: A multi-modal tweet dataset for image persuasiveness mining. Proceedings of the 9th Workshop on Argument Mining, International Conference on Computational Linguistics at **COLING'2022**.

Sheng Li, Geng Yuan, Yawen Wu, **Yue Dai**, Chao Wu, Alex K Jones, Jingtong Hu, Yanzhi Wang, Xulong Tang. 2024. EdgeOL: Efficient in-situ Online Learning on Edge Devices. arXiv preprint arXiv:2401.16694.

Justin Brody, Samuel Barham, **Yue Dai**, Christopher Maxey, Donald Perlis, David Sekora, Jared Shamwell. 2016. Reasoning with grounded self-symbols for human-robot interaction. 2016 AAAI Fall Symposium Series

Xuejun Liu, Haiying Luan, Wenbai Chen, **Yue Dai**, Jiandong Liu, Bo Lan. 2014. Electrical nonlinearity pre-compensation for CO-OFDM system. Optik, 125(2), 616-619.

Research Experience

University of Pittsburgh *Pittsburgh, PA*

Research Assistant *Sep. 2018 - Present*

- Develop efficient training frameworks for general Deep Neural Networks and Temporal Graph Neural Networks
- Design software-hardware co-designs and GPU runtimes for inference acceleration on diverse deep graph learning models
- Develop adversarial attacks and defenses for deep graph learning models, with a focus on Temporal Graph Neural Networks
- Optimize deep graph learning models for accurate and scalable graph similarity computing

University of Maryland, College Park *College Park, MD*

Research Assistant *2015-2017*

- Develop metacognitive intelligent system based on active logic machine
- Design a reliable and secure distributed data management method for cloud services

Beihang University *Beijing, CHINA*

Undergraduate Research *2010-2014*

- Design sensor and control system for solar panel maintaining robots and devices

Beijing Research Institute of Automation for Machinery Industry *Beijing, CHINA*

Research Intern *2014*

- Develop an electrical nonlinearity pre-compensation method for optical orthogonal frequency-division multiplexing systems

Research Talks

2023 **FlexGM: An Adaptive Runtime System to Accelerate Graph Matching Networks on GPUs**, at ICCD 2023, Washinton DC, USA

2020 **Effectiveness of Video Encoder for Adversarial Videos Defense**, at University of Pittsburgh, Pittsburgh, PA.

Awards

2024 **CS 50 Outstanding Research Fellowship**, Department of Computer Science, University of Pittsburgh

2023 **Orrin E. and Margaret M. Taulbee Graduate Award**, Department of Computer Science, University of Pittsburgh

Mentoring

2021-Now	**Sheng Li**, PhD, University of Pittsburgh Efficient ML system. One paper published on **ICLR'23**, one submitted on **ICLR'25**
2022-Now	**Tianyu Wang**, PhD, University of Pittsburgh Efficient ML system. One paper submitted to **OSDI'25**
2022-Now	**Yingheng Li**, PhD, University of Pittsburgh RL for Quantum Compilation. One paper submitted to **ISCA'25**
2021-2022	**Austin Tercha**, Master of Science, University of Pittsburgh GNN Quantization.

Teaching Experience

Fall 2022	**CS2210 COMPILER DESIGN**, Teaching Assistant
Fall 2022	**CS1622 INTRODUCTION TO COMPILER DESIGN**, Teaching Assistant
Summer 2022	**CS0007 INTRODUCTION TO COMPUTER PROGRAMMING**, Teaching Assistant
Spring 2022	**CS1550 INTRODUCTION TO OPERATING SYSTEMS**, Teaching Assistant
Summer 2021	**CS1501 ALGORITHMS DATA STRUCTURES 2**, Teaching Assistant
FALL 2020	**CS2510 COMPUTER OPERATING SYSTEMS**, Teaching Assistant
FALL 2020	**CS1621 STRUCTURE PROGRAMMING LANGUAGES**, Teaching Assistant
Summer 2020	**CS0007 INTRODUCTION TO COMPUTER PROGRAMMING**, Teaching Assistant
Spring 2020	**CS1550 INTRODUCTION TO OPERATING SYSTEMS**, Teaching Assistant
Fall 2019	**CS0008 INTRODUCTION TO COMPUTER PROGRAMMING WITH PYTHON**, Teaching Assistant
Summer 2019	**CS0007 INTRODUCTION TO COMPUTER PROGRAMMING**, Teaching Assistant
Spring 2019	**CS1520 PROGRAMMING LANGUAGE FOR WEB APPLICATIONS**, Teaching Assistant
Fall 2018	**CS0449 INTRODUCTION TO SYSTEMS SOFTWARE**, Teaching Assistant

Professional Development

Artifact Evaluation Committee MICRO'22, ASPLOS'23, PLDI'23,

Peer Review ICLR'24