

Yue Dai

PHD CANDIDATE · DEPARTMENT OF COMPUTER SCIENCE

University of Pittsburgh, Pittsburgh, PA 15260

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Education

University of Pittsburgh

PHD STUDENT IN COMPUTER SCIENCE

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

Pittsburgh, PA 15260

2018/09 - present

University of Maryland, College Park

MS OF SCIENCE IN TELECOMMUNICATION

- Advisor: Dr. Michael Dellomo

College Park, MD 20742

2015/09 - 2017/05

Beihang University

BACHELOR OF ENGINEERING IN ELECTRICAL ENGINEERING AND AUTOMATION

Beijing, China 100191

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

**co-first author*

- 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**).
- 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**).
- Sheng Li*, Geng Yuan*, **Yue Dai***, 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**).
- 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.
- 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.
- 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**
RESEARCH ASSISTANT

Pittsburgh, PA
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**
RESEARCH ASSISTANT

College Park, MD
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**
UNDERGRADUATE RESEARCH

Beijing, CHINA
2010-2014

 - Design sensor and control system for solar panel maintaining robots and devices
- Beijing Research Institute of Automation for Machinery Industry**
RESEARCH INTERN

Beijing, CHINA
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

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 _____

PROFESSIONAL SERVICE Artifact Evaluation Committee of MICRO'22, ASPLOS'23, PLDI'23, Reviewer of ICLR'24