
Fangzhou Ye

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EDUCATION

- Bachelor's in Electronic Science and Engineering September, 2019 - June, 2023.
College of Information Science and Electronic Engineering, Zhejiang University, Hangzhou, Zhejiang, China.
- Ph.D. in Computer Engineering August, 2023 - Present.
Department of Electrical and Computer Engineering, University of Central Florida, Orlando, FL, US.
Thesis advisor: Dr. Hao Zheng

RESEARCH INTEREST

- Computer Architecture, Machine Learning, Software/Hardware Co-design, AI/ML systems, Efficient AI.

SKILLS

- Programming languages: C, C++, Python, Pytorch, MATLAB, and Verilog.

MAJOR PROFESSIONAL EXPERIENCE

Teaching/Research Graduate Assistant, University of Central Florida

August, 2023 - Present

- Research Graduate Assistant. (Leading Projects)
 - Designed a **specific hardware accelerator** with a **novel scheduling policy** for GNN training/inference. Verified the design with the **clock-accurate simulator** in Python. Submitted a paper to DAC 2024 Conference and have been accepted.
 - Designed a **generative model** in Python to deal with the **communication issues in GNN training**. Submitted a paper to the HPCA 2026 Conference and have been accepted.
 - Designed a **Parallel strategy with CUDA** to deal with the **Multi-hop GNN in GPU acceleration**.
 - Designed a **specific hardware accelerator** to deal with the **redundancy issues in Higher-order GNNs**. Submitted a paper to the MICRO 2026 Conference and have been accepted.
 - Designed a **holistic computer system for the GraphRAG system** to create an efficient pipeline for redundancy-free.
 - Designed a **specific hardware accelerator** to deal with the computation and memory issues in high-order tensor contraction. Submitted a paper to the ISCA 2026 Conference and have been accepted.
 - Working on irregular sparse issues in scientific computing problems. Designed an accelerator for **non-linear solvers**. Submitted a paper to the MICRO 2026 Conference and have been accepted.
- Teaching Graduate Assistant.
 - EGN 3211 Eng Analysis & Computation in Fall 2024 and Spring 2025. Assisted in teaching students Engineering Analysis and Computation, focusing on structured programming constructs in C/C++.
 - EEL 3552 Signal Analysis & Analog Communication in Fall 2024. Assisted in teaching students concepts about the signal theorem.
 - EEE 3442 Digital Design in Spring 2025. This course provides an introduction to logic design and the basic building blocks of digital computers

Student Research Training Program (**at the national level**) in Zhejiang University

June, 2021 - May, 2022

- Conducted research on **model segmentation** methods for wireless **federated learning**.
- Designed and implemented a **distributed communication system** using PyTorch in Python.

Internship at Office of Global Engagement, Zhejiang University

September, 2021 - December, 2021

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- Handled general affairs as a student assistant.

SELECTED PUBLICATION

Conference Proceedings

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- [1]. **Fangzhou Ye**, Amir Ghazizadeh Ahsaei, Hao Zheng. "Argus: An Efficient Accelerator Design for Sparse Nonlinear Solver", in Proceedings of IEEE/ACM International Symposium on Microarchitecture (MICRO) (**Top-tier Conference**), Athens, Greece, October 31 - November 4, 2026.
 - [2]. **Fangzhou Ye**, Wei Zhang, Ahmed Louri, Hao Zheng. "MOSAIC: An Accelerator Design for Heterophilic Graph Learning", in Proceedings of IEEE/ACM International Symposium on Microarchitecture (MICRO) (**Top-tier Conference**), Athens, Greece, October 31 - November 4, 2026.
 - [3]. **Fangzhou Ye**, Shilin Tian, Amir Ghazizadeh Ahsaei, Hao Zheng. "TensorPrism: Rethinking Sparse High-order Tensor Acceleration via Co-occurrence Graph", in Proceedings of the 53rd International Symposium on Computer Architecture (ISCA) (**Top-tier Conference**), Raleigh, USA, June 27 - July 1, 2026.
 - [4]. Shilin Tian, **Fangzhou Ye**, Amir Ghazizadeh Ahsaei, Wei Zhang, Hao Zheng, "PanGaea: A Unified Memory-Efficient Accelerator for Pangenome Chaining and Alignment", in Proceedings of the 63rd Design Automation Conference (DAC) (**Top-tier Conference**), Long Beach, CA, July 26-29, 2026.
 - [5]. **Fangzhou Ye**, Lingxiang Yin, and Hao Zheng, "Scaling Graph Neural Network Training via Geometric Optimization", in Proceedings of IEEE International Symposium on High-Performance Computer Architecture (HPCA) (**Top-tier Conference**), Sydney, Australia, January 31-February 4, 2026.
 - [6]. Amir Ghazizadeh Ahsaei*, Lingxiang Yin*, Shilin Tian, **Fangzhou Ye**, Fan Yao, Hao Zheng "Rethinking Tiling and Dataflow for SpMM Acceleration: A Graph Transformation Framework", in Proceedings of IEEE/ACM International Symposium on Microarchitecture (MICRO) (**Top-tier Conference**), Seoul, South Korea, October 18-22, 2025.
 - [7]. **Fangzhou Ye**, Lingxiang Yin, Amir Ghazizadeh Ahsaei, Hao Zheng. "EGMA: Enhancing Data Reuse and Workload Balancing in Message Passing GNN Acceleration via Gram Matrix Optimization", in Proceedings of the 61st Design Automation Conference (DAC) (**Top-tier Conference**), San Francisco, CA, June 23-27, 2024.

Patents

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- [8]. Shi Binpu, **Ye Fangzhou**, Liu Shengli, Chen Haoyang, Yu Guanding, "A distributed communication and method", submitted to China National Intellectual Property Administration (CNIPA), 2022.

AWARDS

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- Outstanding Graduate Researcher Award, UCF, 2026.
 - Future Faculty Laureates (FFLs) Program for Doctoral Students, UCF, 2024-2026.
 - ISCA Student Travel Grant, ISCA, 2026.
 - MICRO Student Travel Grant, MICRO, 2025.
 - ORCGS Doctoral Fellowship, UCF, 2023-2024.
 - DAC Young Fellows, DAC, 2024.

PROFESSIONAL ACTIVITIES

Conference Review

- DAC'24-26, IPDPS'24, ICCAD'24-26, ISPASS'25-26, MLSys'26, ICS'26,

Journal Reviewer

- IEEE Transactions on Sustainable Computing (TSUSC); IEEE Transactions on Computers (TC); Future Generation Computer Systems; IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (TCAD); IEEE Transactions on Circuits and Systems I (TCAS-I); Computing in Springer Nature