

JIADONG ZHU

Ph.D. student ◊ Microelectronics Thrust

The Hong Kong University of Science and Technology (Guangzhou)

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RESEARCH INTERESTS

- AI for chip design
- Electronic design automation (EDA)
- Inverse design
- Physical design
- Large Language Model (LLM)

EDUCATION

HKUST(GZ), Guangzhou, China

Feb. 2025 – Jul. 2028

Ph.D. Microelectronics

Advisor: Yuzhe Ma

HKUST(GZ), Guangzhou, China

Aug. 2022 – Jul. 2024

M.Phil. Microelectronics

Thesis: Exploring FPGA Architecture for Deep Learning Acceleration

Advisor: Yuzhe Ma

Shanghai University, Shanghai, China

Sep. 2018 – Jul. 2022

B.Eng. Electrical Engineering and Automation

PUBLICATIONS

† denotes equal contribution.

Journal Papers

- [J3] Dongshenng Zuo, **Jiadong Zhu**, Yang Luo, and Yuzhe Ma, “PrefixAgent: An LLM-Powered Design Framework for Efficient Prefix Adder Optimization”, ACM Transactions on Design Automation of Electronic Systems (**TODAES**).
- [J2] Hongwei Ren, Yue Zhou†, **Jiadong Zhu**†, Xiaopeng Lin†, Haotian Fu, Yulong Huang, Yuetong Fang, Fei Ma, Hao Yu, and Bojun Cheng, “Rethinking Efficient and Effective Point-based Networks for Event Camera Classification and Regression”, IEEE Transactions on Pattern Analysis and Machine Intelligence (**TPAMI**).
- [J1] Dongshenng Zuo†, **Jiadong Zhu**†, Yikang Ouyang, and Yuzhe Ma, “RL-MUL 2.0: Multiplier Design Optimization with Parallel Deep Reinforcement Learning and Space Reduction”, ACM Transactions on Design Automation of Electronic Systems (**TODAES**).

Conference Papers

- [C7] **Jiadong Zhu**, Junjia Ru, Zhirui Zong, and Yuzhe Ma, “A Unified Framework for Circuit-Aware Tapped-Inductor Inverse Design with Topology-Aware Sequence Representation”, IEEE/ACM Asian and South Pacific Design Automation Conference (**ASPDAC**), Tokyo, Jan. 25-28, 2027.
- [C6] Dongsheng Zuo, Yang Luo, **Jiadong Zhu**, and Yuzhe Ma, “TAP-MAC: Low-Power Optimization of Multipliers and Multiply-Accumulators via Topology-Aware Power Modeling”, IEEE/ACM International Conference on Computer-Aided Design (**ICCAD**), San Jose, Nov. 8-12, 2026.
- [C5] Jindong Li†, Lianrong Chen†, Bin Yang†, **Jiadong Zhu**†, Ying Wang, Yuzhe Ma, and Menglin Yang, “PCB-Bench: Benchmarking LLMs for Printed Circuit Board Placement and Routing”, ACM/IEEE International Conference on Learning Representations (**ICLR**), Rio de Janeiro, April 23-27, 2026.
- [C4] Yikang Ouyang, Xiaofei Yu, **Jiadong Zhu**, and Yuzhe Ma, “Efficient Continuous Logic Optimization with Diffusion Model”, ACM/IEEE Design Automation Conference (**DAC**), San Francisco, Jun. 22-25, 2025.

- [C3] **Jiadong Zhu**, Dongsheng Zuo, and Yuzhe Ma, “A Holistic FPGA Architecture Exploration Framework for Deep Learning Acceleration”, IEEE/ACM Asian and South Pacific Design Automation Conference (**ASPDAC**), Tokyo, Jan. 20-23, 2025.
- [C2] Dongsheng Zuo, **Jiadong Zhu**, Chenglin Li, and Yuzhe Ma, “UFO-MAC: A Unified Framework for Optimization of High-Performance Multipliers and Multiply-Accumulators”, IEEE/ACM International Conference on Computer-Aided Design (**ICCAD**), New Jersey, Oct. 27–31, 2024.
- [C1] Hongwei Ren[†], **Jiadong Zhu**[†], Yue Zhou, Haotian Fu, Yulong Huang, and Bojun Cheng, “A Simple and Effective Point-based Network for Event Camera 6-DOFs Pose Relocalization”, IEEE/CVF Conference on Computer Vision and Pattern Recognition (**CVPR**), Seattle, Jun. 17–21, 2024.

EXPERIENCE

Research Assistant HKUST(GZ) Guangzhou, China	Sep. 2024 – Jan. 2025
Engineering Intern Festo (China) Ltd. Shanghai, China	Dec. 2021 – May. 2022
Engineering Intern SAIC Motor Passenger Vehicle Co., Ltd. Shanghai, China	Aug. 2021 – Oct. 2021
Engineering Intern Shanghai Automation Instrumentation Co., Ltd. Shanghai, China	Jul. 2021 – Aug. 2021
Engineering Intern Shanghai Automation Instrumentation Co., Ltd. Shanghai, China	Jul. 2020 – Sep. 2020

AWARDS AND HONORS

- [A6] **PhD Full Postgraduate Studentship**, HKUST(GZ), 2025 – 2028.
- [A5] **MPhil Full Postgraduate Studentship**, HKUST(GZ), 2022 – 2024.
- [A4] **First-Class Academic Scholarship**, SHU, 2021.
- [A3] **Flama Outstanding Scholarship**, SHU, 2020.
- [A2] **Self-Discipline Scholarship**, SHU, 2020.
- [A1] **China International College Students’ “Internet+” Innovation and Entrepreneurship Competition Second Prize**, SHU, 2020.

GRADUATE-LEVEL COURSES

MICS5520: Physical Design Automation of Digital Systems

IOTA5501: Convex and Nonconvex Optimization

MICS6000U: ML Accelerators

MICS6000L: Computer Architecture

MICS6000Q: VLSI Design Optimization and Closure