YIHANG ZUO MPHIL

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EDUCATION

Hong Kong University of Science and Technology (Guangzhou)   Guangzhou, China
Second year MPhil candidate in Microelectronic   2023 - Current
- Advisor: Prof. Yuzhe Ma and Prof. Jiayi Huang

South China University of Technology   Guangzhou, China
B.E. in Microelectronics   2019 - 2023

RESEARCH INTEREST

My interests include Algorithm-system co-design of machine learning/artificial intelligence, computer architecture and heterogeneous computing (FPGAs/GPUs), machine learning for electronic design automation (EDA), and neuromorphic computing.

PUBLICATIONS

Major Peer-reviewed Conference and Journal Papers

1. **[DAC '25] First Author Manuscript in Preparation:** A paper about CIM-based AI accelerator. (Title Modified for Anonymity). *Proceedings of the 2025 Design, Automation and Test in Europe Conference*

2. **[DAC'25] Second Author Manuscript in Preparation:** A paper about CIM-based AI accelerator. (Title Modified for Anonymity). *ACM/IEEE Design Automation Conference (DAC), 2025*

3. **[DAC '23]** Zhuolun He, **Yihang Zuo**, Jiaxi Jiang, Haisheng Zheng, Yuzhe Ma, and Bei Yu. OpenDRC: An Efficient Open-Source Design Rule Checking Engine with Hierarchical GPU Acceleration *ACM/IEEE Design Automation Conference (DAC), 2023* `https://doi.org/10.1109/DAC56929.2023.10247734`

4. **[AO] Y. Zuo**, B. Liu, and K. Shao. Symmetrical indoor visible light layout optimized by a modified grey wolf algorithm. ***Applied Optics**, 61(20):6016–6022, Jul 2022.* `https://doi.org/10.1364/AO.458919`

5. **[WHICEB]**J. Wan, X. Liu, **Y. Zuo**, and J. Luo. Analysis on public opinion sentiment evolution of covid-19 based on weibo data. *WHICEB 2021 Proceedings. 67.* `https://aisel.aisnet.org/whiceb2021/67`

Minor Lightly-Reviewed Posters, Extended Abstracts, and Workshop Papers

1. **[DATE'25]** Tianchu Dong, Shaoxuan Li, **Yihang Zuo**, Hongwu Jiang, Yuzhe Ma and Shanshi Huang. OpenC^2: An Open-Source End-to-End Hardware Compiler Development Framework for Digital Compute-in-Memory Macro *Proceedings of the 2025 Design, Automation and Test in Europe Conference*

HIGHLIGHT PROJECT

GPU-based Physical Verification   02/2022 – Present

- **Affiliation:** Shanghai Artificial Intelligence Lab
- **Collaborator:** Dr.Zhuolun HE, Prof. Yuzhe MA, and Prof. Bei YU
- **Participation (Done):** Design and implement the sequential algorithm for design rule checking (DRC).   **DAC 23**
- **Participation (Doing):** Manage the overall research project of layout versus schematic (LVS).   **ISQED 25**

Hybrid CIM-based AI Accelerator   11/2023 – Present

- **Affiliation:** Hong Kong University of Science and Technology (Guangzhou)
- **Collaborator:** Prof.Yuzhe MA, Prof.Jiayi HUANG, Prof.Hongwu Jiang, and Prof.Shanshi Huang
- **Participation (Doing):** Develop a hardware-mapping co-exploration framework for hybrid CIM-based accelerator.   **DAC 25**
- **Participation (Done):** Assist in developing a DCIM layout generator.   **DATE 25**
- **Participation (Doing):** Assist in optimizing the scheduling and Noc of hybrid CIM-based accelerator.   **DAC 25**

Indoor visible light communication system   11/2021 – 04/2022

- **Affiliation:** South China University of Technology
- **Participation:** Propose a modified grey wolf algorithm to optimize the VLC system layout, which will likely jump out of the local optimal solution.   **AO 22**

AWARDS AND HONORS

- **Postgraduate Studentship, HKUST(GZ)** 120,000RMB/year   09/2023-current
- **JieLi Scholarship, SCUT** 5000RMB   09/2021
- **Academic Scholarship, SCUT** 3000RMB   09/2021& 09/2022
- **Meritorious winner**, Mathematical Contest in Modeling (MCM)   02/2021
- **1st Prize in Guangdong province**, China Undergraduate MCM   10/2020
- **1st Prize in South China**, China college IC competition   07/2022
- **2nd Prize in Guangdong province**, China Undergraduate MCM   10/2021
- **3th Prize in South China**, China college IC competition   07/2021
- **3th Prize**, China college IC competition   08/2022
- **Runner-up**, SCUT debate competition   11/2020

SKILLS

Languages: Chinese, English
Programming: `Python`, C++, `MATLAB`, `CUDA`, `LATEX`.
Software: KLayout, ABC, NeuroSim, OpenRoad, Qrouter, EDA flow

EXPERIENCE AND SERVICE

Intern of Shanghai Artificial Intelligence Lab (Pujiang lab)   2022.09-2023.03
Summer Course of University of Illinois Urbana-Champaign (UIUC)   2021.08
Course of Hong Kong University of Science and Technology (HKUST)   2022.05
Mentor of SCUT Undergraduate Admission Promotion in Henan Province   2021.01
President of SCUT Microelectronics Association   2021.05 – 2022.09
Excellent Social Practice **Volunteer**, SCUT