CONG WANG

cwang841@connect.hkust-gz.edu.cn
Ph.D. Candidate ⋄ Microelectronic Thrust
The Hong Kong University of Science and Technology (Guangzhou)

RESEARCH INTERESTS

Electronic Design Automation (EDA), **Design for ML Accelerators**, **Efficient AI Algorithm**

EDUCATION

The Hong Kong University of Science and Technology(Guangzhou) *Sept. 2023 - Present*
Microelectronic Thrust | *Supervisor: Prof.Shanshi Huang*
& Prof.Wei Zhang, ***IEEE Fellow*** Ph.D. Candidate

Southern University of Science and Technology *Sept. 2021 - Jul. 2023*
School of Microelectronic | *Supervisor: Prof.Quan Chen* M.Eng

Zhengzhou University *Sept. 2017 - Jul. 2021*
School of Information Engineering B.Eng

SELECTED PUBLICATION

[1] **Cong Wang***, Zexin Fu*, Jiayi Huang, Shanshi Huang, "Hemlet: A Heterogeneous Compute-in-Memory Chiplet Architecture for Vision Transformers with Group-Level Parallelism"
(Under review)

[2] **Cong Wang**, Zeming Chen, Shanshi Huang,"MICSim: A Modular Pre-Circuit Simulator for Mixed-Signal Compute-in-Memory Accelerators in CNNs and Transformers," *Integration, the VLSI Journal.* **(Integration 2025)**

[3] Ruihao He, **Cong Wang**, Xipeng Lin, Shaoxuan Li, Hongwu Jiang, "RCIM: a Reconfigurable Compute-In-Memory Architecture for Artificial, Spiking and Hybrid Neural Networks",
Proceedings of the 8th IEEE International Conference on Integrated Circuits, Technologies and Applications. **(ICTA 2025)**

[4] Xipeng Lin **Cong Wang**, Shanshi Huang, Hongwu Jiang,"Point-CIM: Compute-In-Memory based Point Cloud Accelerator with Input Bit-Serial Sparsification," *ACM/IEEE Design Automation Conference* . **(DAC 2025)**

[5] **Cong Wang**, Zeming Chen, Shanshi Huang,"MICSim: A Modular Simulator for Mixed-signal Compute-in-Memory based AI Accelerator," *Proceedings of the 30th Asia and South Pacific Design Automation Conference.* **(ASP-DAC 2025)**

[6] **Cong Wang**, Dongen Yang, Jinming Lyu, Yong Dai, Cheng Zhuo, Quan Chen, "On Model Order Reduction and Exponential Integrator for Transient Circuit Simulation," *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, vol. 43, no. 1, pp. 328-339, Jan. 2024. **(TCAD 2024)**

[7] **Cong Wang**, Dongen Yang, Quan Chen,"EI-MOR: A hybrid exponential integrator and model order reduction approach for transient power/ground network analysis," *Proceedings of the 41st IEEE/ACM International Conference on Computer-Aided Design.* **(ICCAD 2022)**

HONORS AND AWARDS

- HKUST(GZ) Research Postgraduate Scholarship *2023-present*

- SUSTech Outstanding graduates *2023*
- Best Paper Nomination, 2022 National Graduate Forum on Microelectronics *2023*
- 3rd Place of the EDA integrated circuit eda elite challenge *2023*
- SUSTech Postgraduate Scholarship *2021-2023*
- The Third Prize Scholarship *2021*
- National Encouragement Scholarship *2019, 2020*
- Merit Student of Zhengzhou University *2019, 2020*
- The First Prize of Zhengzhou University in National Mathematics Competition *2020*
- The Second Prize of Henan province in National Mathematics Competition *2020*
- 1st Place of Zhengzhou University in "Qiushi Cup"Mathematics Competition *2020*
- The First Prize of "Challenge Cup" National College Student Business Plan Competition *2019*
- Excellent Student Cadre *2019*
- Advanced Individual of Social Work *2018*
- Excellent Student Volunteer *2018*

TEACHING

MICS6000U ML Accelerator, Teaching Assistant *2024-2025 Fall*

UCMP6010 Cross-disciplinary Research Methods, Teaching Assistant *2024-2025 Spring*

SKILLS

Language	Mandarin (Native), English (IELT 7.0/CET-6)
Programming	Python(Numpy, Scipy), C/C++, Verilog/SystemVerilog, MATLAB
AI Framework	Pytorch, Hugging-Face Transformers
Software & Tools	Markdown, LaTeX, Office