LIN Wenhao

whlin23@cse.cuhk.edu.hk

Education

The Chinese University of Hong Kong *Hong Kong, China*

Ph.D. in Computer Science and Engineering *Aug 2023 - Current*

- Supervisor: Prof. Evangeline F.Y. Young
- Focus on Electronic Design Automation (EDA)

Harbin Institute of Technology, Shenzhen Campus *Shenzhen, China*

B.Eng. in Computer Science *Sep 2019 - Jun 2023*

- Thesis advisor: Asso. Prof. Junjie Chen
- GPA: 3.85/4 or 91/100

Research Experiences

Parallel FPGA Routing *Hong Kong, China*

The Chinese University of Hong Kong *Nov 2023 – Current*

- 2nd place in FPGA'24 routing contest
- Propose a novel recursive partitioning ternary tree to augment the parallelism of multi-net routing.
- Propose a hybrid updating strategy for congestion coefficients to accelerate congestion resolution.
- Achieve a 2x speedup compared to the academic sequential router RWRoute without quality degradation.

ASIC 3D Placement with Macros *Hong Kong, China*

The Chinese University of Hong Kong *Jun 2023 - Nov 2023*

- 3rd place in problem B of ICCAD'23 contest
- Propose a 3D placement framework based on electrostatic field model.
- Initialization: 2D initial placement and 3D wirelength-driven partitioning.
- 2.5D placement: extend the 2D electrostatic model to place multiple layers simultaneously.

Deep Learning for DNA Analysis *Shenzhen, China*

Harbin Institute of Technology, Shenzhen Campus *Nov 2022 – Feb 2023*

- Propose a BERT-based ensemble model for DNA enhancer identification and achieve sota performance.
- Show the interpretability of the model by analyzing the contextual information of DNA codon tokens.

Publications

Potter: A Parallel Overlap-Tolerant Router for UltraScale FPGAs
Xinshi Zang, Wenhao Lin, Jinwei Liu, Evangeline FY Young
International Conference on Computer-Aided Design (ICCAD) 2024, 2024

An Open-Source Fast Parallel Routing Approach for Commercial FPGAs
Xinshi Zang, Wenhao Lin, Shiju Lin, Jinwei Liu, Evangeline FY Young
Proceedings of the Great Lakes Symposium on VLSI 2024, 2024

iEnhancer-ELM: improve enhancer identification by extracting position-related multiscale contextual information based on enhancer language models
Jiahao Li, Zhourun Wu, Wenhao Lin, Jiawei Luo, Jun Zhang, Qingcai Chen, Junjie Chen
Bioinformatics Advances. Oxford University Press, 2023

Skills

Programming & Tools Python, Java, C/C++, Linux, Shell, LaTeX, Git.

Languages Mandarin (Native), Cantonese (Native), English (IELTS 6.5)

Awards

2024 **2nd place**, Runtime-First FPGA Interchange Routing Contest @ FPGA'24

2023 **3rd place**, Problem B of ICCAD'23 Contest (3D Placement with Macros)

2021 **First class (top 5%)**, Undergraduate Academic Scholarship of School of Computer Science

2021 **Finalist Prize (top 1.5%)**, Mathematical Contest in Modeling (MCM)