

Education

The Chinese University of Hong Kong

Ph.D. in Computer Science and Engineering

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

Hong Kong, China

Aug 2023 - Current

Harbin Institute of Technology, Shenzhen Campus

B.Eng. in Computer Science

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

Shenzhen, China

Sep 2019 - Jun 2023

Research Experiences

Parallel FPGA Routing

The Chinese University of Hong Kong

- 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 RWRout without quality degradation.

Hong Kong, China

Nov 2023 - Current

ASIC 3D Placement with Macros

The Chinese University of Hong Kong

- 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.

Hong Kong, China

Jun 2023 - Nov 2023

Deep Learning for DNA Analysis

Harbin Institute of Technology, Shenzhen Campus

- 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.

Shenzhen, China

Nov 2022 - Feb 2023

Publications

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)