

Lixin Liu

PERSONAL INFORMATION	Rm 904, SHB The Chinese University of Hong Kong Shatin, N.T., Hong Kong SAR, China	Phone: (+852) 5229-7915 WWW: liulixinkerry.github.io Email: lxliu@cse.cuhk.edu.hk
RESEARCH INTERESTS	Placement, Physical Design, Machine Learning, GPU Acceleration, Distributed Deep Learning System	
EDUCATION	The Chinese University of Hong Kong (CUHK) Ph.D. Computer Science & Engineering (Advisor: Prof. Evangeline F.Y. Young)	Hong Kong SAR, China 2019 - Present
	South China University of Technology (SCUT) B.Eng. Electronic Science and Technology (Talented Student Program)	Guangzhou, China 2015 - 2019
HONORS & AWARDS	<ul style="list-style-type: none">• Second Place Award at Contest on Microarchitecture Design Space Exploration, ICCAD 2022• Talent Development Scholarship, CUHK 2022• First Place Award at Contest on Routing with Cell Movement, ICCAD 2020• DAC Young Fellow Award, DAC 2020• First Place Award at Contest on Wafer-Scale Deep Learning Accelerator Placement, ISPD 2020• Full Postgraduate Studentship, CUHK 2019 - Present• Undergraduate Scholarship, SCUT 2018• Jianzhong Cai Scholarship, SCUT 2016• Talented Student Program 2015	
EXPERIENCE	CUHK EDA Research Postgraduate Student (Mentor: Prof. Evangeline F.Y. Young) <ul style="list-style-type: none">• GPU-Accelerated Routability-Driven Placement (Ongoing)• GPU-Accelerated Global Placement (Accepted by DAC 2022)• Placement and Routing Co-Optimization (Accepted by ICCAD 2021)• GPU-Accelerated ILT (Accepted by ICCAD 2020) Guangzhou Yuexiu Industrial Investment Fund Management Investment Analyst Intern, Advanced Manufacture Team	Hong Kong SAR, China Aug. 2019 - Present Guangzhou, China May. 2019 - Jun. 2019
	Guangfa Fund Management Quantitative Researcher Analyst Intern, International Business Department	Guangzhou, China Dec. 2018 - Apr. 2019
	Vision and Learning Lab, UC Merced Visiting Student (Mentor: Prof. Ming-Hsuan Yang)	Merced, CA Sep. 2018 - Nov. 2018
	Human Computer Intelligent Communication Interface Lab, SCUT Research Assistant (Mentor: Prof. Xin Zhang)	Guangzhou, China Nov. 2016 - Aug. 2018
PUBLICATIONS	Conference Paper <ol style="list-style-type: none">1. Lixin Liu, Bangqi Fu, Martin D.F. Wong, Evangeline F.Y. Young, "Xplace: An Extremely Fast and Extensible Global Placement Framework." <i>ACM/IEEE Design Automation Conference, (DAC)</i>, 2022. [GitHub Code]2. Fangzhou Wang, Lixin Liu, Jingsong Chen, Jinwei Liu, Xinshi Zang, Martin DF Wong, "Starfish: An Efficient P&R Co-Optimization Engine with A*-based Partial Rerouting" <i>IEEE/ACM International Conference On Computer Aided Design, (ICCAD)</i>, 2021.3. Bentian Jiang, Xiaopeng Zhang, Lixin Liu, Evangeline F.Y. Young, "Building up End-to-end Mask Optimization Framework with Self-training." <i>ACM International Symposium on Physical Design (ISPD)</i>, 2021.4. Bentian Jiang, Lixin Liu, Yuzhe Ma, Hang Zhang, Bei Yu, Evangeline F.Y. Young, "Neural-ILT: Migrating ILT to Neural Networks for Mask Printability and Complexity Co-optimization." <i>IEEE/ACM International Conference on Computer-Aided Design (ICCAD)</i>, 2020. [GitHub Code]	

5. Bentian Jiang, Jingsong Chen, Jinwei Liu, **Lixin Liu**, Fangzhou Wang, Xiaopeng Zhang, Evangeline F.Y. Young, "CU.POKer: Placing DNNs on Wafer-Scale AI Accelerator with Optimal Kernel Sizing." *IEEE/ACM International Conference on Computer-Aided Design (ICCAD)*, 2020.
6. Weiyang Liu, Rongmei Lin, Zhen Liu, **Lixin Liu**, Zhiding Yu, Bo Dai, Le Song, "Learning towards Minimum Hyperspherical Energy." *Conference on Neural Information Processing Systems (NeurIPS)*, 2018.

Journal Paper

1. Bentian Jiang, **Lixin Liu**, Yuzhe Ma, Bei Yu, Evangeline F.Y. Young, "Neural-ILT 2.0: Migrating ILT to Domain-specific and Multi-task-enabled Neural Network." *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (TCAD)*, 2021.
2. Bentian Jiang, Jingsong Chen, Jinwei Liu, **Lixin Liu**, Fangzhou Wang, Xiaopeng Zhang, Evangeline F.Y. Young, "CU. POKer: Placing DNNs on WSE with Optimal Kernel Sizing and Efficient Protocol Optimization." *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, (TCAD)*, 2021.

REVIEWER	<ul style="list-style-type: none"> • IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (TCAD) • IEEE/ACM Design Automation Conference (DAC) • IEEE/ACM International Conference on Computer-Aided Design (ICCAD) • ACM Great Lakes Symposium on VLSI (GLSVLSI) 	
TEACHING	<ul style="list-style-type: none"> • CENG 1540: Fundamental Computing With C++ • CENG 2720: Building Web Applications • CENG 2400: Microcomputer Systems • ENGG 1120: Linear Algebra for Engineers • CSCI 3170: Introduction to Database Systems 	2021-22 Term 1 2020-21 Term 2 2020-21 Term 1 2019-20 Term 2 2019-20 Term 1
PROGRAMMING SKILLS	C/C++, Python, CUDA, Java, Matlab, PyTorch, Caffe, HTML, CSS	