

## Lixin Liu

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PERSONAL INFORMATION	Rm 913, SHB The Chinese University of Hong Kong Shatin, N.T., Hong Kong SAR, China	Phone: (+852) 5229-7915 WWW: <a href="http://liulixinkerry.github.io">liulixinkerry.github.io</a> Email: <a href="mailto:lxliu@cse.cuhk.edu.hk">lxliu@cse.cuhk.edu.hk</a>
RESEARCH INTERESTS	Placement, Physical Design, Machine Learning, GPU Acceleration, Distributed Deep Learning System	
EDUCATION	<b>The Chinese University of Hong Kong (CUHK)</b> Ph.D. Computer Science & Engineering (Advisor: Prof. Evangeline F.Y. Young)	Hong Kong SAR, China 2019 - Present
	<b>South China University of Technology (SCUT)</b> B.Eng. Electronic Science and Technology (Talented Student Program)	Guangzhou, China 2015 - 2019
HONORS & AWARDS	<ul style="list-style-type: none"><li>• Second Place Award at Contest on Microarchitecture Design Space Exploration, ICCAD 2022</li><li>• Talent Development Scholarship, CUHK 2022</li><li>• First Place Award at Contest on Routing with Cell Movement, ICCAD 2020</li><li>• DAC Young Fellow Award, DAC 2020</li><li>• First Place Award at Contest on Wafer-Scale Deep Learning Accelerator Placement, ISPD 2020</li><li>• Full Postgraduate Studentship, CUHK 2019 - Present</li><li>• Undergraduate Scholarship, SCUT 2018</li><li>• Jianzhong Cai Scholarship, SCUT 2016</li><li>• Talented Student Program 2015</li></ul>	
EXPERIENCE	<b>CUHK EDA</b> Research Postgraduate Student (Mentor: Prof. Evangeline F.Y. Young) <ul style="list-style-type: none"><li>• GPU-Accelerated Global Placement (Accepted by DAC 2022)</li><li>• Placement and Routing Co-Optimization (Accepted by ICCAD 2021)</li><li>• GPU-Accelerated ILT (Accepted by ICCAD 2020)</li></ul> <b>Guangzhou Yuexiu Industrial Investment Fund Management</b> Investment Analyst Intern (Semiconductor focus), Advanced Manufacture Team	Hong Kong SAR, China Aug. 2019 - Present  Guangzhou, China May. 2019 - Jun. 2019
	<b>Guangfa Fund Management</b> Quantitative Researcher Analyst Intern, International Business Department	Guangzhou, China Dec. 2018 - Apr. 2019
	<b>Vision and Learning Lab, UC Merced</b> 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	<b>Conference Paper</b> <ol style="list-style-type: none"><li>1. <b>Lixin Liu</b>, 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.</li><li>2. Fangzhou Wang, <b>Lixin Liu</b>, Jingsong Chen, Jinwei Liu, Xinshi Zang, Martin DF Wong, "Starfish: An Efficient P&amp;R Co-Optimization Engine with A*-based Partial Rerouting" <i>IEEE/ACM International Conference On Computer Aided Design, (ICCAD)</i>, 2021.</li><li>3. Bentian Jiang, Xiaopeng Zhang, <b>Lixin Liu</b>, 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.</li><li>4. Bentian Jiang, <b>Lixin Liu</b>, 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.</li><li>5. Bentian Jiang, Jingsong Chen, Jinwei Liu, <b>Lixin Liu</b>, Fangzhou Wang, Xiaopeng Zhang, Evangeline F.Y. Young, "CU.POKer: Placing DNNs on Wafer-Scale AI Accelerator with Optimal Kernel Sizing." <i>IEEE/ACM International Conference on Computer-Aided Design (ICCAD)</i>, 2020.</li></ol>	

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	ICCAD 2020, DAC 2021, GLSVLSI 2021, ICCAD 2022, TCAD 2022		
TEACHING	<ul style="list-style-type: none"> <li>• CENG 1540: Fundamental Computing With C++</li> <li>• CENG 2720: Building Web Applications</li> <li>• CENG 2400: Microcomputer Systems</li> <li>• ENGG 1120: Linear Algebra for Engineers</li> <li>• CSCI 3170: Introduction to Database Systems</li> </ul>		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, Kotlin, VHDL		