

林亦波

助理教授 ◊ 设计自动化与计算系统系 ◊ 集成电路学院 ◊ 北京大学
yibolin@pku.edu.cn ◊ www.yibolin.com

研究方向

面向超大规模集成电路设计自动化的建模和优化、深度学习及其应用、异构计算

教育经历

德克萨斯大学奥斯汀分校 2013 年 8 月 – 2018 年 5 月
博士学位, 电子与计算机工程系
指导老师: David Z. Pan
博士毕业论文: “Bridging Design and Manufacturing Gap through Machine Learning and Machine-Generated Layout”
(学积分 3.96/4.0)

上海交通大学 2009 年 9 月 – 2013 年 6 月
学士学位, 微电子学院
(学积分 91.17/100)
(排名 1/60)

工作经历

北京大学 (Peking University) 2019 年 7 月 – 现在
助理教授
集成电路学院设计自动化与计算系统系 (自 2021 年 11 月)
信息科学技术学院高能效计算与应用中心

德克萨斯大学奥斯汀分校 (UT Austin) 2018 年 6 月 – 2019 年 6 月
博后

授课经历

主讲	设计自动化与计算系统导论	研究生课, 2022 年秋
主讲	芯片设计自动化与智能优化	本科生课, 2021-2022 年春
主讲	计算概论 B	本科生课, 2020-2022 年秋

奖项及荣誉

首届最佳审稿人奖	ICCAD	2023 年
最佳论文 (4/205)	DATE	2023 年
最佳论文 (4/249)	DATE	2022 年
最佳论文提名	ICCAD	2022 年
最佳论文 (2/3495, 4 年总和)	TCAD	2021 年

最佳论文	ISPD	2020 年
最佳论文提名	ASPDAC	2020 年
最佳论文 (1/201) & 提名 (5/201)	DAC	2019 年
最佳论文提名	ISPD	2019 年
首届最佳论文	Integration, the VLSI Journal	2018 年
Graduate Continuing Fellowship	德克萨斯大学奥斯汀分校	2017 年
Franco Cerrina Memorial 最佳学生论文	SPIE	2016 年
A. Richard Newton Young Student Fellow	DAC	2014 年
国家奖学金	上海交通大学	2012 年
三星奖学金	上海交通大学	2011 年
二等奖学金	上海交通大学	2010 年

学术服务

技术程序委员会成员

- ACM/IEEE Design Automation Conference (DAC): 2020.
- IEEE/ACM International Conference on Computer-Aided Design (ICCAD): 2018, 2019, 2020, 2021.
- IEEE International Conference on Computer Design (ICCD): 2019.
- IEEE/ACM Asia and South Pacific Design Automation Conference (ASPDAC): 2021, 2022.
- ACM International Symposium on Physical Design (ISPD): 2020.
- ACM/IEEE Workshop on Machine Learning for CAD (MLCAD): 2021.
- Workshop on Synthesis And System Integration of Mixed Information technologies (SASIMI): 2021.
- IEEE Electron Devices Technology and Manufacturing Conference (EDTM): 2021.
- IEEE International Conference on Artificial Intelligence Circuits and Systems (AICAS): 2022.

期刊审稿人

- IEEE Transaction on Computer-Aided Design of Integrated Circuits and Systems (TCAD).
- IEEE Transactions on Computers (TC).
- ACM Transaction on Design Automation of Electronic Systems (TODAES).
- SPIE Journal of Micro/Nanolithography, MEMS, and MOEMS (JM3).
- Elsevier, Integration, the VLSI Journal (Integration).

期刊编辑

- ACM Transaction on Design Automation of Electronic Systems (TODAES) Special Issue on MLCAD, 2022.

执行委员会成员

- ACM/IEEE Workshop on Machine Learning for CAD (MLCAD) 2021, financial chair.

会议论文

- [C96] Jiarui Wang, Xun Jiang and **Yibo Lin**, “Top-Level Routing for Multiply-Instantiated Blocks with Topology Hashing”, ACM/IEEE Design Automation Conference (DAC), San Francisco, CA, Jun, 2024. (accepted)
- [C95] Yufan Du, Zizheng Guo, Xun Jiang, Zhuomin Chai, Yuxiang Zhao, **Yibo Lin**, Runsheng Wang and Ru Huang, “PowPrediCT: Cross-Stage Power Prediction with Circuit-Transformation-Aware Learning”, ACM/IEEE Design Automation Conference (DAC), San Francisco, CA, Jun, 2024. (accepted)
- [C94] Haoyi Zhang, Jiahao Song, Xiaohan Gao, Xiyuan Tang, **Yibo Lin**, Runsheng Wang and Ru Huang, “EasyACIM: An End-to-End Automated Analog CIM with Synthesizable Architecture and Agile Design Space Exploration”, ACM/IEEE Design Automation Conference (DAC), San Francisco, CA, Jun, 2024. (accepted)
- [C93] Zichen Kong, Xiyuan Tang, Wei Shi, Yiheng Du, **Yibo Lin** and Yuan Wang, “PVT sizing: A TuRBO-RL-Based Batch-Sampling Optimization Framework for PVT-Robust Analog Circuit Synthesis”, ACM/IEEE Design Automation Conference (DAC), San Francisco, CA, Jun, 2024. (accepted)
- [C92] Yuan Pu, Fangzhou Liu, Yu Zhang, Zhuolun He, Kai-Yuan Chao, **Yibo Lin** and Bei Yu, “Lesyn: Placement-aware Logic Resynthesis for Non-Integer Multiple-Cell-Height Designs”, ACM/IEEE Design Automation Conference (DAC), San Francisco, CA, Jun, 2024. (accepted)
- [C91] Wan Luan Lee, Dian-Lun Lin, Tsung-Wei Huang, Shui Jiang, Tsung-Yi Ho, **Yibo Lin** and Bei Yu, “G-kway: Multilevel GPU-Accelerated k-way Graph Partitioner”, ACM/IEEE Design Automation Conference (DAC), San Francisco, CA, Jun, 2024. (accepted)
- [C90] Xun Jiang, Zhuomin Chai, Yuxiang Zhao, **Yibo Lin**, Runsheng Wang and Ru Huang, “Circuit-Net 2.0: An Advanced Dataset for Promoting Machine Learning Innovations in Realistic Chip Design Environment”, International Conference on Learning Representations (ICLR), Vienna, Austria, May, 2024. (accepted)
- [C89] Zizheng Guo, Tsung-Wei Huang, Jin Zhuo, Cheng Zhuo, **Yibo Lin**, Runsheng Wang and Ru Huang, “Heterogeneous Static Timing Analysis with Advanced Delay Calculator”, IEEE/ACM Proceedings Design, Automation and Test in Europe (DATE), Valencia, Spain, Mar, 2024. (accepted)
- [C88] Haoyi Zhang, Xiaohan Gao, Zilong Shen, Jiahao Song, Xiaoxu Cheng, Xiyuan Tang, **Yibo Lin**, Runsheng Wang and Ru Huang, “SAGERoute 2.0: Hierarchical Analog and Mixed Signal Routing Considering Versatile Routing Scenarios”, IEEE/ACM Proceedings Design, Automation and Test in Europe (DATE), Valencia, Spain, Mar, 2024. (accepted)
- [C87] Cheng-Hsiang Chiu, Zhicheng Xiong, Zizheng Guo, Tsung-Wei Huang and **Yibo Lin**, “[An Efficient Task-parallel Pipeline Programming Framework](#)”, International Conference on High-Performance Computing in Asia-Pacific Region (HPC Asia), Nagoya, Japan, Jan, 2024. (accepted)

- [C86] Jing Mai, Jiaru Wang, Zhixiong Di, Guojie Luo, Yun Liang and **Yibo Lin**, “[OpenPARF: An Open-Source Placement and Routing Framework for Large-Scale Heterogeneous FPGAs with Deep Learning Toolkit](#)”, International Conference on ASIC (ASICON), Nanjing, China, Oct, 2023. (**Invited paper**)
- [C85] Yifan Chen, Zaiwen Wen, Yun Liang and **Yibo Lin**, “Stronger Mixed-Size Placement Backbone Considering Second-Order Information”, IEEE/ACM International Conference on Computer-Aided Design (ICCAD), San Francisco, CA, Oct, 2023.
- [C84] Xun Jiang, Zizheng Guo, Zhuomin Chai, Yuxiang Zhao, **Yibo Lin**, Runsheng Wang and Ru Huang, “Accelerating Routability and Timing Optimization with Open-Source AI4EDA Dataset CircuitNet and Heterogeneous Platforms”, IEEE/ACM International Conference on Computer-Aided Design (ICCAD), San Francisco, CA, Oct, 2023. (**Invited paper**)
- [C83] Kexing Zhou, Yun Liang, **Yibo Lin**, Runsheng Wang and Ru Huang, “[Khronos: Fusing Memory Access for Improved Hardware RTL Simulation](#)”, IEEE/ACM International Symposium on Microarchitecture (MICRO), Toronto, Canada, Oct, 2023.
- [C82] Zizheng Guo, Zuodong Zhang, Xun Jiang, Wuxi Li, **Yibo Lin**, Runsheng Wang and Ru Huang, “General-Purpose Gate-Level Simulation with Partition-Agnostic Parallelism”, ACM/IEEE Design Automation Conference (DAC), San Francisco, CA, Jul 9-13, 2023.
- [C81] Qipan Wang, Ping Liu, Liguang Jiang, Mingjie Liu, **Yibo Lin**, Runsheng Wang and Ru Huang, “MTL-Designer: An Integrated Flow for Analysis and Synthesis of Microstrip Transmission Line”, ACM/IEEE Design Automation Conference (DAC), San Francisco, CA, Jul 9-13, 2023.
- [C80] Peiyu Liao, Hongduo Liu, **Yibo Lin**, Bei Yu and Martin Wong, “On a Moreau Envelope Wirelength Model for Analytical Global Placement”, ACM/IEEE Design Automation Conference (DAC), San Francisco, CA, Jul 9-13, 2023.
- [C79] Siting Liu, Ziyi Wang, Fangzhou Liu, **Yibo Lin**, Bei Yu and Martin Wong, “Concurrent Sign-off Timing Optimization via Deep Steiner Points Refinement”, ACM/IEEE Design Automation Conference (DAC), San Francisco, CA, Jul 9-13, 2023.
- [C78] Su Zheng, Lancheng Zou, Siting Liu, **Yibo Lin**, Bei Yu and Martin Wong, “Mitigating Distribution Shift for Congestion Optimization in Global Placement”, ACM/IEEE Design Automation Conference (DAC), San Francisco, CA, Jul 9-13, 2023.
- [C77] Yu Zhang, Yifan Chen, Zhonglin Xie, Hong Xu, Zaiwen Wen, **Yibo Lin** and Bei Yu, “LRSDP: Low-Rank SDP for Triple Patterning Lithography Layout Decomposition”, ACM/IEEE Design Automation Conference (DAC), San Francisco, CA, Jul 9-13, 2023.
- [C76] Yuxiang Zhao, Zhuomin Chai, **Yibo Lin**, Runsheng Wang and Ru Huang, “[HybridNet: Dual-Branch Fusion of Geometrical and Topological Views for VLSI Congestion Prediction](#)”, IEEE/ACM International Symposium of EDA (ISEDA), Nanjing, China, May 8-11, 2023.
- [C75] Haoyi Zhang, Xiaohan Gao, **Yibo Lin**, Runsheng Wang and Ru Huang, “[Multi-Scenario Analog and Mixed-Signal Circuit Routing with Agile Human Interaction](#)”, IEEE/ACM International Symposium of EDA (ISEDA), Nanjing, China, May 8-11, 2023.

- [C74] Haoyi Zhang, Xiaohan Gao, Haoyang Luo, Jiahao Song, Xiyuan Tang, Junhua Liu, **Yibo Lin**, Runsheng Wang and Ru Huang, “SAGERoute: Synergistic Analog Routing Considering Geometric and Electrical Constraints with Manual Design Compatibility”, IEEE/ACM Proceedings Design, Automation and Test in Europe (DATE), Antwerp, Belgium, Apr 17-19, 2023. (**Best Paper Award**)
- [C73] Zuodong Zhang, Meng Li, **Yibo Lin**, Runsheng Wang and Ru Huang, “READ: Reliability-Enhanced Accelerator Dataflow Optimization using Critical Input Pattern Reduction”, IEEE/ACM Proceedings Design, Automation and Test in Europe (DATE), Antwerp, Belgium, Apr 17-19, 2023.
- [C72] Yifan Chen, Jing Mai, Xiaohan Gao, Muhan Zhang and **Yibo Lin**, “[MacroRank: Ranking Macro Placement Solutions Leveraging Translation Equivariancy](#)”, IEEE/ACM Asia and South Pacific Design Automation Conference (ASPDAC), Tokyo, Japan, Jan 16-19, 2023.
- [C71] Jiarui Wang, Jing Mai, Zhixiong Di and **Yibo Lin**, “[A Robust FPGA Router with Concurrent Intra-CLB Rerouting](#)”, IEEE/ACM Asia and South Pacific Design Automation Conference (ASPDAC), Tokyo, Japan, Jan 16-19, 2023.
- [C70] Junchi Yan, Xianglong Lyu, Ruoyu Cheng and **Yibo Lin**, “Towards Machine Learning for Placement and Routing in Chip Design: a Methodological Overview”, arXiv preprint, 2022.
- [C69] Zizheng Guo, Feng Gu and **Yibo Lin**, “[GPU-Accelerated Rectilinear Steiner Tree Generation](#)”, IEEE/ACM International Conference on Computer-Aided Design (ICCAD), San Diego, CA, Nov 01-03, 2022.
- [C68] Qipan Wang, Xiaohan Gao, **Yibo Lin**, Runsheng Wang and Ru Huang, “[DeePEB: A Neural Partial Differential Equation Solver for Post Exposure Baking Simulation in Lithography](#)”, IEEE/ACM International Conference on Computer-Aided Design (ICCAD), San Diego, CA, Nov 01-03, 2022. (**Best Paper Nomination**)
- [C67] **Yibo Lin**, Xiaohan Gao, Haoyi Zhang, Runsheng Wang and Ru Huang, “[Intelligent and Interactive Analog Layout Design Automation](#)”, IEEE International Conference on Solid-State and Integrated Circuit Technology (ICSICT), Nanjing, China, Oct 25-28, 2022. (**Invited paper**)
- [C66] Binwu Zhu, Xinyun Zhang, **Yibo Lin**, Bei Yu and Martin Wong, “[Efficient Design Rule Checking Script Generation via Key Information Extraction](#)”, ACM/IEEE Workshop on Machine Learning for CAD (MLCAD), Snowbird, Utah, Sep 12-13, 2022.
- [C65] Jing Mai, Yibai Meng, Zhixiong Di and **Yibo Lin**, “[Multi-Electrostatic FPGA Placement Considering SLICEL-SLICEM Heterogeneity and Clock Feasibility](#)”, ACM/IEEE Design Automation Conference (DAC), San Francisco, CA, Jul 10-14, 2022.
- [C64] Zizheng Guo and **Yibo Lin**, “[Differentiable-Timing-Driven Global Placement](#)”, ACM/IEEE Design Automation Conference (DAC), San Francisco, CA, Jul 10-14, 2022.
- [C63] Zizheng Guo, Mingjie Liu, Jiaqi Gu, Shuhan Zhang, David Z. Pan and **Yibo Lin**, “[A Timing Engine Inspired Graph Neural Network Model for Pre-Routing Slack Prediction](#)”, ACM/IEEE Design Automation Conference (DAC), San Francisco, CA, Jul 10-14, 2022.
- [C62] Zuodong Zhang, Zizheng Guo, **Yibo Lin**, Runsheng Wang and Ru Huang, “[AVATAR: An Aging-](#)

and Variation-Aware Dynamic Timing Analyzer for Application-based DVAFS”, ACM/IEEE Design Automation Conference (DAC), San Francisco, CA, Jul 10-14, 2022.

- [C61] Bowen Wang, Guibao Shen, Dong Li, Jianye Hao, Wulong Liu, Yu Huang, Hongzhong Wu, **Yibo Lin**, Guangyong Chen and Pheng Ann Heng, “LHNN: Lattice Hypergraph Neural Network for VLSI Congestion Prediction”, ACM/IEEE Design Automation Conference (DAC), San Francisco, CA, Jul 10-14, 2022.
- [C60] Zuodong Zhang, Zizheng Guo, **Yibo Lin**, Runsheng Wang and Ru Huang, “[EventTimer: Fast and Accurate Event-Based Dynamic Timing Analysis](#)”, IEEE/ACM Proceedings Design, Automation and Test in Europe (DATE), Antwerp, Belgium, Mar 14-23, 2022.
- [C59] Siting Liu, Peiyu Liao, Zhitang Chen, Wenlong Lv, **Yibo Lin** and Bei Yu, “[FastGR: Global Routing on CPU-GPU with Heterogeneous Task Graph Scheduler](#)”, IEEE/ACM Proceedings Design, Automation and Test in Europe (DATE), Antwerp, Belgium, Mar 14-23, 2022. (**Best Paper Award**)
- [C58] Peiyu Liao, Siting Liu, Zhitang Chen, Wenlong Lv, **Yibo Lin** and Bei Yu, “[DREAMPlace 4.0: Timing-driven Global Placement with Momentum-based Net Weighting](#)”, IEEE/ACM Proceedings Design, Automation and Test in Europe (DATE), Antwerp, Belgium, Mar 14-23, 2022.
- [C57] Haoyu Yang, Kit Fung, Yuxuan Zhao, **Yibo Lin** and Bei Yu, “[Mixed-Cell-Height Legalization on CPU-GPU Heterogeneous Systems](#)”, IEEE/ACM Proceedings Design, Automation and Test in Europe (DATE), Antwerp, Belgium, Mar 14-23, 2022.
- [C56] Xun Jiang, **Yibo Lin** and Zhongfeng Wang, “[FPGA-Accelerated Maze Routing Kernel for VLSI Designs](#)”, IEEE/ACM Asia and South Pacific Design Automation Conference (ASPDAC), Virtual Conference, Jan 17-20, 2022.
- [C55] Kexing Zhou, Zizheng Guo, Tsung-Wei Huang and **Yibo Lin**, “[Efficient Critical Paths Search Algorithm using Mergeable Heap](#)”, IEEE/ACM Asia and South Pacific Design Automation Conference (ASPDAC), Virtual Conference, Jan 17-20, 2022.
- [C54] Zizheng Guo, Tsung-Wei Huang and **Yibo Lin**, “[A Provably Good and Practically Efficient Algorithm for Common Path Pessimism Removal in Large Designs](#)”, ACM/IEEE Design Automation Conference (DAC), San Francisco, CA, Dec 05-09, 2021.
- [C53] Guannan Guo, Tsung-Wei Huang, **Yibo Lin** and Martin Wong, “[GPU-accelerated Path-based Timing Analysis](#)”, ACM/IEEE Design Automation Conference (DAC), San Francisco, CA, Dec 05-09, 2021.
- [C52] Zizheng Guo, Jing Mai and **Yibo Lin**, “[Ultrafast CPU/GPU Kernels for Density Accumulation in Placement](#)”, ACM/IEEE Design Automation Conference (DAC), San Francisco, CA, Dec 05-09, 2021.
- [C51] Xiaohan Gao, Mingjie Liu, David Z. Pan and **Yibo Lin**, “[Interactive Analog Layout Editing with Instant Placement Legalization](#)”, ACM/IEEE Design Automation Conference (DAC), San Francisco, CA, Dec 05-09, 2021.
- [C50] Zizheng Guo, Tsung-Wei Huang and **Yibo Lin**, “[HeteroCPPR: Accelerating Common Path](#)

- Pessimism Removal with Heterogeneous CPU-GPU Parallelism”, IEEE/ACM International Conference on Computer-Aided Design (ICCAD), Virtual Conference, Nov 01-04, 2021.
- [C49] Guannan Guo, Tsung-Wei Huang, **Yibo Lin** and Martin Wong, “[GPU-accelerated Critical Path Generation with Path Constraints](#)”, IEEE/ACM International Conference on Computer-Aided Design (ICCAD), Virtual Conference, Nov 01-04, 2021.
- [C48] Tong Qu, **Yibo Lin**, Tianyang Gai, Xiaojing Su, Shuhan Wang, Bojie Ma, Yajuan Su and Yayi Wei, “[Litho-Aware Redundant Local-Loop Insertion Framework With Convolutional Neural Network](#)”, Proceedings of SPIE, San Jose, CA, Sep 27, 2021.
- [C47] Tong Qu, **Yibo Lin**, Zongqing Lu, Yajuan Su and Yayi Wei, “[Asynchronous Reinforcement Learning Framework for Net Order Exploration in Detailed Routing](#)”, IEEE/ACM Proceedings Design, Automation and Test in Europe (DATE), Virtual Conference, Feb 01-05, 2021.
- [C46] Siting Liu, Qi Sun, Peiyu Liao, **Yibo Lin** and Bei Yu, “[Global Placement with Deep Learning-Enabled Explicit Routability Optimization](#)”, IEEE/ACM Proceedings Design, Automation and Test in Europe (DATE), Virtual Conference, Feb 01-05, 2021.
- [C45] Hongjia Li, Mengshu Sun, Tianyun Zhang, Olivia Chen, Nobuyuki Yoshikawa, Bei Yu, Yanzhi Wang and **Yibo Lin**, “[Towards AQFP-Capable Physical Design Automation](#)”, IEEE/ACM Proceedings Design, Automation and Test in Europe (DATE), Virtual Conference, Feb 01-05, 2021.
- [C44] Xiaohan Gao, Chenhui Deng, Mingjie Liu, Zhiru Zhang, David Z. Pan and **Yibo Lin**, “[Layout Symmetry Annotation for Analog Circuits with Graph Neural Networks](#)”, IEEE/ACM Asia and South Pacific Design Automation Conference (ASPDAC), Tokyo, Japan, Jan 18-21, 2021.
- [C43] **Yibo Lin**, “[Deep Learning for Mask Synthesis and Verification: A Survey](#)”, IEEE/ACM Asia and South Pacific Design Automation Conference (ASPDAC), Tokyo, Japan, Jan 18-21, 2021. (**Invited paper**)
- [C42] Jiaqi Gu, Zixuan Jiang, **Yibo Lin** and David Z. Pan, “[DREAMPlace 3.0: Multi-Electrostatics Based Robust VLSI Placement with Region Constraints](#)”, IEEE/ACM International Conference on Computer-Aided Design (ICCAD), Nov 2-5, 2020.
- [C41] Zizheng Guo, Tsung-Wei Huang and **Yibo Lin**, “[GPU-Accelerated Static Timing Analysis](#)”, IEEE/ACM International Conference on Computer-Aided Design (ICCAD), Nov 2-5, 2020.
- [C40] **Yibo Lin**, “[GPU Acceleration in VLSI Back-end Design: Overview and Case Studies](#)”, IEEE/ACM International Conference on Computer-Aided Design (ICCAD), Nov 2-5, 2020. (**Invited tutorial**)
- [C39] Wei Ye, Mohamed Baker Alawieh, Yuki Watanabe, Shigeki Nojima, **Yibo Lin** and David Z. Pan, “[TEMPO: Fast Mask Topography Effect Modeling with Deep Learning](#)”, ACM International Symposium on Physical Design (ISPD), Taipei, Taiwan, Sep 20-23, 2020. (**Best Paper Award**)
- [C38] Wei Li, Jialu Xia, Yuzhe Ma, Jialu Li, **Yibo Lin** and Bei Yu, “[Adaptive Layout Decomposition with Graph Embedding Neural Networks](#)”, ACM/IEEE Design Automation Conference (DAC), San Francisco, Jul 19-23, 2020.
- [C37] **Yibo Lin**, David Z. Pan, Haoxing Ren and Brucek Khailany, “DREAMPlace 2.0: Open-Source

GPU-Accelerated Global and Detailed Placement for Large-Scale VLSI Designs”, China Semiconductor Technology International Conference (CSTIC), Shanghai, China, Jun, 2020. (**Invited paper**)

- [C36] Rachel Selina Rajarathnam, **Yibo Lin**, Yier Jin and David Z. Pan, “[ReGDS: A Reverse Engineering Framework from GDSII to Gate-level Netlist](#)”, IEEE International Workshop on Hardware-Oriented Security and Trust (HOST), San Jose, CA, May 4, 2020.
- [C35] Mingjie Liu, Wuxi Li, Keren Zhu, Biying Xu, **Yibo Lin**, Linxiao Shen, Xiyuan Tang, Nan Sun and David Z. Pan, “S3DET: Detecting System Symmetry Constraints for Analog Circuits with Graph Similarity”, IEEE/ACM Asia and South Pacific Design Automation Conference (ASPDAC), Jan 13-16, 2020. (**Best Paper Nomination**)
- [C34] Mohamed Baker Alawieh, Wuxi Li, **Yibo Lin**, Love Singhal, Mahesh Iyer and David Z. Pan, “High-Definition Routing Congestion Prediction for Large-Scale FPGAs”, IEEE/ACM Asia and South Pacific Design Automation Conference (ASPDAC), Jan 13-16, 2020.
- [C33] Wuxi Li, **Yibo Lin** and David Z. Pan, “[elfPlace: Electrostatics-based Placement for Large-Scale Heterogeneous FPGAs](#)”, IEEE/ACM International Conference on Computer-Aided Design (ICCAD), Westminster, CO, Nov 4-7, 2019.
- [C32] Keren Zhu, Mingjie Liu, **Yibo Lin**, Biying Xu, Shaolan Li, Xiyuan Tang, Nan Sun and David Z. Pan, “[GeniusRoute: A New Analog Routing Paradigm Using Generative Neural Network Guidance](#)”, IEEE/ACM International Conference on Computer-Aided Design (ICCAD), Westminster, CO, Nov 4-7, 2019.
- [C31] Chengyue Gong, Zixuan Jiang, Dilin Wang, **Yibo Lin**, Qiang Liu and David Z. Pan, “[Mixed Precision Neural Architecture Search for Energy Efficient Deep Learning](#)”, IEEE/ACM International Conference on Computer-Aided Design (ICCAD), Westminster, CO, Nov 4-7, 2019.
- [C30] Biying Xu, Keren Zhu, Mingjie Liu, **Yibo Lin**, Shaolan Li, Xiyuan Tang, Nan Sun and David Z. Pan, “[MAGICAL: Toward Fully Automated Analog IC Layout Leveraging Human and Machine Intelligence](#)”, IEEE/ACM International Conference on Computer-Aided Design (ICCAD), Westminster, CO, Nov 4-7, 2019. (**Invited paper**)
- [C29] Wei Li, Yuzhe Ma, Qi Sun, **Yibo Lin**, Iris Hui-Ru Jiang, Bei Yu and David Z. Pan, “[OpenMPL: An Open Source Layout Decomposer](#)”, International Conference on ASIC (ASICON), Chongqing, China, Oct, 2019. (**Invited paper**)
- [C28] **Yibo Lin**, Shounak Dhar, Wuxi Li, Haoxing Ren, Brucek Khailany and David Z. Pan, “[DREAM-Place: Deep Learning Toolkit-Enabled GPU Acceleration for Modern VLSI Placement](#)”, ACM/IEEE Design Automation Conference (DAC), Las Vegas, NV, Jun 2-6, 2019. (**Best Paper Award**)
- [C27] Wei Ye, Mohamed Baker Alawieh, **Yibo Lin** and David Z. Pan, “[LithoGAN: End-to-End Lithography Modeling with Generative Adversarial Networks](#)”, ACM/IEEE Design Automation Conference (DAC), Las Vegas, NV, Jun 2-6, 2019. (**Best Paper Nomination**)
- [C26] Biying Xu, **Yibo Lin**, Xiyuan Tang, Shaolan Li, Linxiao Shen, Nan Sun and David Z. Pan, “[WellGAN: Generative-Adversarial-Network-Guided Well Generation for Analog/Mixed-Signal Circuit Layout](#)”, ACM/IEEE Design Automation Conference (DAC), Las Vegas, NV, Jun 2-6, 2019.

- [C25] Mohamed Baker Alawieh, **Yibo Lin**, Zaiwei Zhang, Meng Li, Qixing Huang and David Z. Pan, “[GAN-SRAF: Sub-Resolution Assist Feature Generation Using Conditional Generative Adversarial Networks](#)”, ACM/IEEE Design Automation Conference (DAC), Las Vegas, NV, Jun 2-6, 2019.
- [C24] **Yibo Lin**, Zhao Song and Lin F. Yang, “[Towards a Theoretical Understanding of Hashing-Based Neural Nets](#)”, International Conference on Artificial Intelligence and Statistics (AISTATS), Okinawa, Japan, Apr 16-18, 2019.
- [C23] Biying Xu, Shaolan Li, Chak-Wa Pui, Derong Liu, Linxiao Shen, **Yibo Lin**, Nan Sun and David Z. Pan, “[Device Layer-Aware Analytical Placement for Analog Circuits](#)”, ACM International Symposium on Physical Design (ISPD), San Francisco, CA, Apr 14-17, 2019. (**Best Paper Nomination**)
- [C22] Wei Ye, Mohamed Baker Alawieh, Meng Li, **Yibo Lin** and David Z. Pan, “[Litho-GPA: Gaussian Process Assurance for Lithography Hotspot Detection](#)”, IEEE/ACM Proceedings Design, Automation and Test in Europe (DATE), Florence, Italy, Mar 25-29, 2019.
- [C21] Ying Chen, **Yibo Lin**, Tianyang Gai, Yajuan Su, Yayi Wei and David Z. Pan, “[Semi-Supervised Hotspot Detection with Self-Paced Multi-Task Learning](#)”, IEEE/ACM Asia and South Pacific Design Automation Conference (ASPDAC), Tokyo, Japan, Jan 21-24, 2019.
- [C20] Wei Ye, Mohamed Baker Alawieh, **Yibo Lin** and David Z. Pan, “[Tackling Signal Electromigration with Learning-Based Detection and Multistage Mitigation](#)”, IEEE/ACM Asia and South Pacific Design Automation Conference (ASPDAC), Tokyo, Japan, Jan 21-24, 2019.
- [C19] Wei Ye, **Yibo Lin**, Meng Li, Qiang Liu and David Z. Pan, “[LithoROC: Lithography Hotspot Detection with Explicit ROC Optimization](#)”, IEEE/ACM Asia and South Pacific Design Automation Conference (ASPDAC), Tokyo, Japan, Jan 21-24, 2019. (**Invited paper**)
- [C18] **Yibo Lin**, Mohamed Baker Alawieh, Wei Ye and David Z. Pan, “[Machine Learning for Yield Learning and Optimization](#)”, IEEE International Test Conference (ITC), Phoenix, Arizona, Oct, 2018. (**Invited paper**)
- [C17] Jiong Zhang, **Yibo Lin**, Zhao Song and Inderjit S Dhillon, “[Learning Long Term Dependencies via Fourier Recurrent Units](#)”, International Conference on Machine Learning (ICML), Stockholm, Sweden, Jun 10-15, 2018.
- [C16] **Yibo Lin**, Yuki Watanabe, Taiki Kimura, Tetsuaki Matsunawa, Shigeki Nojima, Meng Li and David Z. Pan, “[Data Efficient Lithography Modeling with Residual Neural Networks and Transfer Learning](#)”, ACM International Symposium on Physical Design (ISPD), Monterey, CA, Mar 25-28, 2018.
- [C15] Meng Li, Bei Yu, **Yibo Lin**, Xiaoqing Xu, Wuxi Li and David Z. Pan, “[A Practical Split Manufacturing Framework for Trojan Prevention via Simultaneous Wire Lifting and Cell Insertion](#)”, IEEE/ACM Asia and South Pacific Design Automation Conference (ASPDAC), Jeju, Korea, Jan 22-25, 2018.
- [C14] Che-Lun Hsu, Shaofeng Guo, **Yibo Lin**, Xiaoqing Xu, Meng Li, Runsheng Wang, Ru Huang and David Z. Pan, “[Layout-dependent aging mitigation for critical path timing](#)”, IEEE/ACM Asia

and South Pacific Design Automation Conference (ASPDAC), Jeju, Korea, Jan 22-25, 2018.

- [C13] **Yibo Lin**, Peter Debacker, Darko Trivkovic, Ryoung-han Kim, Praveen Raghavan and David Z. Pan, “[Patterning Aware Design Optimization of Selective Etching in N5 and Beyond](#)”, IEEE International Conference on Computer Design (ICCD), Boston, MA, Nov 5-8, 2017.
- [C12] **Yibo Lin**, Xiaoqing Xu, Jiaojiao Ou and David Z Pan, “[Machine learning for mask/wafer hotspot detection and mask synthesis](#)”, Photomask Technology, Oct 16, 2017. (**Invited paper**)
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