

# Xiaohan Gao, Ph.D.

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## Biography

I am a Ph.D. student advised by *Prof. Yibo Lin*, at Center for Energy-efficient and Applications, Peking University. My research interests include optimization algorithms, and EDA × programming language.

## Education

- 2020-Present **Ph.D. in Computer Science**  
*Center for Energy-efficient Computing and Applications, Peking University*
- 2016-2020 **B.S. in Electronics Engineering and Computer Science**  
*Yuanpei College, Peking University*

## Research Publications

### Journal Articles

- 1 **X. Gao**<sup>\*</sup>, H. Zhang<sup>\*</sup>, M. Liu, *et al.*, “Interactive analog layout editing with instant placement and routing legalization,” *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, vol. 42, no. 3, pp. 698–711, 2023. DOI: 10.1109/TCAD.2022.3190234.

### Conference Proceedings

- 1 H. Zhang, **X. Gao**, H. Luo, *et al.*, “Sageroute: Synergistic analog routing considering geometric and electrical constraints with manual design compatibility,” in *accepted*, ser. DATE’23, 2023.
- 2 Y. Chen, J. Mai, **X. Gao**, M. Zhang, and Y. Lin, “Macrorank: Ranking macro placement solutions leveraging translation equivariancy,” in *Proceedings of the 28th Asia and South Pacific Design Automation Conference*, ser. ASPDAC ’23, Tokyo, Japan: Association for Computing Machinery, 2023, pp. 258–263, ISBN: 9781450397834. DOI: 10.1145/3566097.3567899.
- 3 Q. Wang, **X. Gao**, Y. Lin, R. Wang, and R. Huang, “Deepeb: A neural partial differential equation solver for post exposure baking simulation in lithography,” in *Proceedings of the 41st IEEE/ACM International Conference on Computer-Aided Design*, ser. ICCAD ’22, San Diego, California: Association for Computing Machinery, 2022, ISBN: 9781450392174. DOI: 10.1145/3508352.3549398.
- 4 Y. Lin, **X. Gao**, H. Zhang, R. Wang, and R. Huang, “Intelligent and interactive analog layout design automation,” in *2022 IEEE 16th International Conference on Solid-State Integrated Circuit Technology*, ser. ICSICT’22, 2022, pp. 1–4. DOI: 10.1109/ICSICT55466.2022.9963217.
- 5 **X. Gao**, M. Liu, D. Z. Pan, and Y. Lin, “Interactive analog layout editing with instant placement legalization,” in *2021 58th ACM/IEEE Design Automation Conference*, ser. DAC ’21, 2021, pp. 1249–1254. DOI: 10.1109/DAC18074.2021.9586234.
- 6 **X. Gao**, C. Deng, M. Liu, Z. Zhang, D. Z. Pan, and Y. Lin, “Layout symmetry annotation for analog circuits with graph neural networks,” in *Proceedings of the 26th Asia and South Pacific Design Automation Conference*, ser. ASPDAC ’21, Tokyo, Japan: Association for Computing Machinery, 2021, pp. 152–157, ISBN: 9781450379991. DOI: 10.1145/3394885.3431545.

## Skills

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- Coding      ┣ C, C++, Python, L<sup>A</sup>T<sub>E</sub>X, CUDA, SQL
- Languages    ┣ Mandarin Chinese, English, French reading

## Miscellaneous Experience

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### Internship

- July 2022 - Present    ┣ **Layout Tool Development** Primarius Technologies
- July 2020 - Aug 2020    ┣ **Summer Intern** Chinese University of Hong Kong

### Teaching

- 2021      ┣ **Teaching Assistant** VLSI CAD
- 2018      ┣ **Teaching Assistant** Freshman Seminar - Robotics