

# Weihaio Lu

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🌐 <https://luweihaio.github.io/>



## Employment History

2025.2 – 2026.2    **Research Fellow**  
Department of Statistics and Data Science, National National University of Singapore.  
Principal Investigator: Yingcun Xia.

## Education

2020.9 – 2024.12    **Ph.D. in Statistics**  
Department of Statistics and Data Science, Tsinghua University.  
Advisor: Qian Lin.

2015.9 – 2019.6    **B.S. in Statistics**  
School of Mathematics and Statistics, Wuhan University.

## Research Interest

Large-dimensional spectral algorithms, minimax risks in non-parametric regression.

## Research Publications

### Journal Articles

- 1 Haobo Zhang, **Weihaio Lu**<sup>†</sup>, and Qian Lin, “The phase diagram of kernel interpolation in large dimensions,” *Biometrika*, vol. 112, no. 1, asae057, Nov. 2024, ISSN: 1464-3510. [DOI](#): 10.1093/biomet/asae057.

### Conference Proceedings







- 1 **Weihaio Lu**, Haobo Zhang, Yicheng Li, and Qian Lin, “On the saturation effects of spectral algorithms in large dimensions,” in *Advances in Neural Information Processing Systems (NeurIPS)*, vol. 37, Curran Associates, Inc., 2024, pp. 7011–7059. [URL](#): [https://proceedings.neurips.cc/paper\\_files/paper/2024/file/0d3496dd0cec77a999c98d35003203ca-Paper-Conference.pdf](https://proceedings.neurips.cc/paper_files/paper/2024/file/0d3496dd0cec77a999c98d35003203ca-Paper-Conference.pdf).
- 2 Haobo Zhang, Yicheng Li, **Weihaio Lu**, and Qian Lin, “On the optimality of misspecified kernel ridge regression,” in *International Conference on Machine Learning (ICML)*, vol. 202, PMLR, 2023, pp. 41 331–41 353. [URL](#): <https://proceedings.mlr.press/v202/zhang23x.html>.

### Preprints

- 1 **Weihaio Lu**, Jialin Ding, Haobo Zhang, and Qian Lin, *On the pinsker bound of inner product kernel regression in large dimensions*, 2024. [URL](#): <https://arxiv.org/abs/2409.00915>.
- 2 Haobo Zhang, Yicheng Li, **Weihaio Lu**, and Qian Lin, *Optimal rates of kernel ridge regression under source condition in large dimensions*, 2024. [URL](#): <https://arxiv.org/abs/2401.01270>.
- 3 **Weihaio Lu**, Haobo Zhang, Yicheng Li, Manyun Xu, and Qian Lin, *Optimal rate of kernel regression in large dimensions*, 2023. [URL](#): <https://arxiv.org/abs/2309.04268>.

## Awards

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- 2023      **Top Ten Papers Award**, Ninth National Graduate Statistics Forum, Renmin University of China.
-  **Best Poster Award**, Peking-Tsinghua Joint Statistics Colloquium, Peking University.
-  **First Prize**, Seventh National Statistics Doctoral Academic Forum, Guangzhou University.
-  **Second Prize for Academic Papers**, First National Doctoral Academic Forum on Mathematics and Statistics, Liaoning University.
- 2024      **NeurIPS Scholar Award**
- 2025      **AISTATS Best Reviewer Award**

## Teaching Assistants

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|---|---|
| 2020 Fall and 2021 Fall                   |  Elementary Probability Theory.          |
| 2021 Spring                               |  Reliability Data and Survival Analysis. |
| 2022 Spring, 2023 Spring, and 2024 Spring |  Mathematical Statistics.                |

## Academic Services

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-  Conference Reviewer AISTATS