Wei Guo

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EDUCATION

Georgia Institute of Technology, Machine Learning Center　　*Aug 2023 – Present*
Ph.D. in Machine Learning
Advisor: Professor Yongxin Chen and Molei Tao

Peking University, School of Mathematical Sciences　　*Sep 2019 – Jul 2023*
B.S. in Statistics
GPA: 3.848/4.0; rank: 5/44
Advisor: Professor Cheng Zhang
Awards: merit student in the academic year of 2019-2020; merit student pacesetter in the academic year of 2020-2021; merit student in the academic year of 2021-2022; 2023 Beijing Outstanding Undergraduate Graduate Award.

RESEARCH INTERESTS

- **Statistics**: Sampling (Markov Chain Monte Carlo), Computational Statistics, Machine Learning Theory.

- **Probability**: Optimal Transport, Applied Stochastic Analysis, Statistical Physics.

- **Machine Learning**: Generative Modeling, Vision and Language Models.

PREPRINTS AND PUBLICATIONS

(In reversed chronological order. * denotes equal contribution or alphabetical order)

[1] Wei Guo, Molei Tao, and Yongxin Chen. "Complexity Analysis of Normalizing Constant Estimation: from Jarzynski Equality to Annealed Importance Sampling and beyond". In: *arXiv preprint arXiv:2502.04575* (2025).

[2] Wei Guo, Molei Tao, and Yongxin Chen. "Provable Benefit of Annealed Langevin Monte Carlo for Non-log-concave Sampling". In: *The Thirteenth International Conference on Learning Representations*. 2025. URL: https://openreview.net/forum?id=P6IVIoGRRg.

[3] Yinuo Ren*, Haoxuan Chen*, Yuchen Zhu*, Wei Guo*, Yongxin Chen, Grant M Rotskoff, Molei Tao, and Lexing Ying. "Fast solvers for discrete diffusion models: Theory and applications of high-order algorithms". In: *arXiv preprint arXiv:2502.00234* (2025).

[4] Wei Guo*, Yuchen Zhu*, Molei Tao, and Yongxin Chen. "Plug-and-play controllable generation for discrete masked models". In: *arXiv preprint arXiv:2410.02143* (2024).

TEACHING ASSISTANT

AE 3531: Control System Analysis and Design. Lecturer: Lu Gan.　　*Fall 2024*
AE 8803: Optimal Transport Theory and Applications. Lecturer: Yongxin Chen.　　*Spring 2025*

COMMUNITY SERVICE

Served as a reviewer for ICLR 2023 (1 paper) and ICLR 2024 (3 papers).

Awards

PKU merit student in the academic year of 2019-2020	*Oct 2020*
PKU merit student pacesetter in the academic year of 2020-2021	*Oct 2021*
PKU merit student in the academic year of 2021-2022	*Oct 2022*
2023 Beijing Outstanding Undergraduate Graduate Award	*Jul 2023*
Best poster award at Yale FDS conference "Recent Advances and Future Directions for Sampling"	*Oct 2024*

Technical Skills

- **Mathematics and Statistics**: Markov chain Monte Carlo, optimization, stochastic analysis, optimal transport, computational statistics, applied partial differential equations.

- **Machine learning**: computer vision, natural language processing.

- **Programming**: proficient programming Python.

- **Languages**: Chinese (Mandarin and Wu dialect, native), English (proficient), French (beginner).