WEI GUO

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Education

Georgia Institute of Technology, Machine Learning Center *Aug 2023 – Present*
PhD 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.

Publications and Preprints (in reversed chronological 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).

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).