

# Wei Guo

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## About me

I am now a second-year Machine Learning Ph.D. student at Georgia Tech, broadly interested in fields ranging from statistics, probability, and machine learning.

The focus and goal of my research are two-fold: to reveal the fundamental principles behind the success of data-driven algorithms and to use these insights to develop accessible, efficient, and robust approaches for solving real-world problems that are essential and valuable for our society.

## Research Interests

- **Statistics:** Sampling (Markov Chain Monte Carlo), Optimization, Computational Statistics, Theoretical Machine Learning, Bayesian Inference.
- **Probability:** Optimal Transport and Gradient Flow Theory, Applied Stochastic Analysis.
- **Machine Learning:** Generative AI, Large Language and Vision Models.

## Education

- B.S.    Peking University**, School of Mathematical Sciences Sep 2019 – Jul 2023
- **Major:** Statistics.
  - **GPA:** 3.848/4.0; rank: 5/44.
  - **Advisor:** Professor [Cheng Zhang](#).
  - **Selected coursework:** Mathematical Statistics (Honor) [95], Statistical Models and Computing Methods [94.8], Functions of Real Variables [100], Functional Analysis [98], Measure Theory [96], Learning by research [98].
- Ph.D.    Georgia Institute of Technology**, Machine Learning Program Aug 2023 –
- **Advisor:** Professor [Yongxin Chen](#).

## Preprints and Publications

- Plug-and-Play Controllable Generation for Discrete Masked Models** Oct 2024  
**Wei Guo**, Yuchen Zhu, Molei Tao, Yongxin Chen  
[arxiv:2410.02143](#)
- Provable Benefit of Annealed Langevin Monte Carlo for Non-log-concave Sampling** Jul 2024  
**Wei Guo**, Molei Tao, Yongxin Chen  
[arxiv:2407.16936](#)

## Technical Skills

**Mathematics and Statistics:** Markov chain Monte Carlo, optimization, stochastic analysis, computational statistics, Bayesian inference.

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

**Coding:** proficient programming in python.

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