

YULAI ZHAO

[Homepage](#) [Google Scholar](#) [DBLP](#) [ORCID](#) [Semantic Scholar](#) [ResearchGate](#) [GitHub](#) [LinkedIn](#)

yulaiz@princeton.edu

RESEARCH INTERESTS

Machine Learning, Reinforcement Learning, Generative AI

EDUCATION

Princeton University, Department of Electrical and Computer Engineering 2022 - Present

- Ph.D. in Machine Learning
- Advisor: S. Y. Kung

Tsinghua University, Department of Electronic Engineering 2018 - 2022

- B.Eng. in Electronic Information Science and Technology
- Advisors: Simon S. Du, Hongwei Chen

RESEARCH INTERNSHIPS

Genentech, Research & Early Development (gRED) May 2024 - Aug 2024

- Worked on diffusion models specifically tailored for DNA/RNA sequences.
- Mentor: Ehsan Hajiramezanali, Masatoshi Uehara

PUBLICATIONS

* denotes equal contribution or alphabetical ordering.

Conference Proceedings

- Feedback Efficient Online Fine-Tuning of Diffusion Models**
Masatoshi Uehara*, Yulai Zhao*, Kevin Black, Ehsan Hajiramezanali, Gabriele Scalia, Nathaniel Lee Diamant, Alex M Tseng, Sergey Levine, Tommaso Biancalani
International Conference on Machine Learning (ICML) 2024
- Provably Efficient CVaR RL in Low-rank MDPs**
Yulai Zhao*, Wenhao Zhan*, Xiaoyan Hu*, Ho-fung Leung, Farzan Farnia, Wen Sun, Jason D. Lee
International Conference on Learning Representations (ICLR) 2024
- Local Optimization Achieves Global Optimality in Multi-Agent Reinforcement Learning**
Yulai Zhao, Zhuoran Yang, Zhaoran Wang, Jason D. Lee
International Conference on Machine Learning (ICML) 2023
- Blessing of Class Diversity in Pre-training**
Yulai Zhao, Jianshu Chen, Simon S. Du
International Conference on Artificial Intelligence and Statistics (AISTATS) 2023
(Oral presentation & notable paper, 2% acceptance rate)
- Provably Efficient Policy Gradient Methods for Two-Player Zero-Sum Markov Games**
Yulai Zhao, Yuandong Tian, Jason D. Lee, Simon S. Du
International Conference on Artificial Intelligence and Statistics (AISTATS) 2022

Working Papers

- Bridging Model-Based Optimization and Generative Modeling via Conservative Fine-Tuning of Diffusion Models**
Masatoshi Uehara*, Yulai Zhao*, Ehsan Hajiramezanali, Gabriele Scalia, Gökçen Eraslan, Avantika Lal, Sergey Levine, Tommaso Biancalani
arXiv preprint

2. **Fine-Tuning of Continuous-Time Diffusion Models as Entropy-Regularized Control**
 Masatoshi Uehara*, **Yulai Zhao***, Kevin Black, Ehsan Hajiramezanali, Gabriele Scalia, Nathaniel Lee
 Diamant, Alex M Tseng, Tommaso Biancalani, Sergey Levine
arXiv preprint
3. **Optimizing the Performative Risk under Weak Convexity Assumptions**
Yulai Zhao
NeurIPS 2022 Workshop on Optimization for Machine Learning

AWARDS/HONORS

- International Conference on Artificial Intelligence and Statistics (AISTATS) Notable Paper** *2023*
- Scholarship of Academic Excellence** *2019,2020*
 Awarded to Tsinghua students ranking top 5 %.
- Toyota Scholarship** *2019*
 Awarded to the department's top 3 out of 260+ students.
- Top 10 in the *Infinity of Math* Competition** *2018*
 Awarded to students outperforming 150+ participants in the school-wide calculus contest.

PROGRAMMING AND COMPUTING SKILLS

- Proficient: Python (NumPy, PyTorch, pandas)
- Intermediate: MATLAB, C/C++, Kdb+