Tesi Xiao

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Research Interest

My research interests lie at the interface of computational and algorithmic inferential problems arising in statistical machine learning. Precisely, I am working on the following topics:

- **Stochastic Optimization**: Computational complexities and inferential problems for gradient-based algorithms.
- **Reinforcement Learning**: Non-asymptotic analysis for off-policy value-based methods for single/multi-agent RL.
- **Bandit Problems**: Regret analysis for stochastic bandit problems and applications to recommender systems.

I am also interested in theory and computation for tensors, unsupervised learning in general.

Education

University of California, Davis — Davis, CA
Ph.D. Candidate in Statistics, GPA: 4.0/4.0, Advisor: Krishnakumar Balasubramanian — 2018–Current

Zhejiang Univerisity — China
B.S. in Statistics, GPA: 3.9/4.0 — 2014–2018

Preprints and Publications

[1] Y. Jin, **T. Xiao**, and K. Balasubramanian, "Statistical inference for polyak-ruppert averaged stochastic zeroth-order gradient algorithm", *arXiv preprint arXiv:2102.05198*, 2021, (co-first author).

[2] X. Liu, **T. Xiao**, S. Si, Q. Cao, S. Kumar, and C.-J. Hsieh, "How does noise help robustness? explanation and exploration under the neural sde framework", in *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2020, pp. 282–290.

[3] **T. Xiao**, K. Balasubramanian, and S. Ghadimi, "Improved complexities for stochastic conditional gradient methods under interpolation-like conditions", *arXiv preprint arXiv:2006.08167*, 2020.

[4] X. Liu, **T. Xiao**, S. Si, Q. Cao, S. Kumar, and C.-J. Hsieh, "Neural sde: Stabilizing neural ode networks with stochastic noise", *arXiv preprint arXiv:1906.02355*, 2019.

Programming Languages and Tools

- **Programming Languages:** C/++, Python, R, MATLAB.
- **Tools:** LaTeX, PyTorch, Tensorflow, SQL.

Coursework

Functional Analysis, Probability Theory, High-dimensional Statistics, Statistical Machine Learning, Numerical Optimization

Teaching

- **Teaching Assistant** at UC Davis
  - STA 243 Computational Statistics (Grad-level) — Spring 2020
  - STA 142A Statistical Learning I — Winter 2020, 2021
  - STA 141A Statistical Data Science — Fall 2019
  - STA 141C Big-data and Statistical Computing — Spring 2021
  - STA 103 Applied Statistics — Winter 2019
  - STA 013 Elementary Statistics — Fall 2018, 2020, Spring 2019

Academic Services

Paper Reviewer for COLT 2020, NeurIPS 2020, AISTATS 2021, ICML 2021

Honors and Awards

- Graduate Student Fellowship at UC Davis — 2018–2019
- Summer Research Scholarship at UC Davis — 2019, 2020
- First Class Scholarship of Outstanding Students (Top 10%) at Zhejiang University