Mufan (Bill) Li

Email: mufan.li@mail.utoronto.ca   Website: https://mufan-li.github.io/

DEGREES	Ph.D. Statistics, University of Toronto	2017-2023
	Thesis: *Analysis of Learning Algorithms via Diffusion Limits*	
	Supervised by Daniel M. Roy and Murat A. Erdogdu	
	M.Sc. Statistics, University of Toronto	2015-2016
	B.A.Sc. Engineering Science, University of Toronto	2010-2015

RESEARCH ARTICLES

See also my Google Scholar or Semantic Scholar pages.

1. Matthew Zhang, Sinho Chewi, **M. Li**, Krishnakumar Balasubramanian, and Murat A. Erdogdu, *Improved Discretization Analysis for Underdamped Langevin Monte Carlo.* To appear at COLT 2023. arXiv:2302.08049.

2. **M. Li** and Murat A. Erdogdu, *Riemannian Langevin Algorithm for Solving Semidefinite Programs.* To appear in Bernoulli (2023+). arXiv:2010.11176.

3. **M. Li**, Mihai Nica, and Daniel M. Roy, *The Neural Covariance SDE: Shaped Infinite Depth-and-Width Networks at Initialization.* NeurIPS 2022 (Selected for Oral, Nominated for Award). arXiv:2206.02768.

4. Raphaël Berthier and **M. Li**, *Acceleration of Gossip Algorithms through the Euler–Poisson–Darboux Equation.* IMA Journal of Applied Mathematics (2022). arXiv:2202.10742.

5. Sinho Chewi, Murat A. Erdogdu, **M. Li**, Ruoqi Shen, and Matthew Zhang, *Analysis of Langevin Monte Carlo from Poincaré to Log-Sobolev.* COLT 2022 Extended Abstract. Under review at Ann. of Appl. Prob. arXiv:2112.12662.

6. **M. Li**, Mihai Nica, and Daniel M. Roy, *The Future is Log-Gaussian: ResNets and Their Infinite-Depth-and-Width Limit at Initialization.* NeurIPS (2021). arXiv:2106.04013.

7. **M. Li**, and Maxime Gazeau, *Higher Order Generalization Error for First Order Discretization of Langevin Diffusion.* Preprint (2021). arXiv:2102.06229

AWARDS	Research Presentation Award, Stat. Soc. of Canada	2021
	Ontario Graduate Scholarship	2019-2023
	MITACS Accelerate Fellowship, with Borealis AI	2018-2019
	Undergraduate Summer Research Fellowship, University of Toronto	2012

WORK EXPERIENCE	Research Intern, Borealis AI	Aug 2018 - Apr 2019
	Investment Analyst, Ontario Teachers' Pension Plan	Jul 2016 - Jul 2017
	Electronic Trading Intern, RBC Capital Markets	May 2013 - Aug 2014

INVITED TALKS

DeepProb, University of Oxford — Feb 2023
Neural Covariance SDE: Shaped Infinite Depth-and-Width Networks at Initialization

OPTML++, MIT — Feb 2023
Neural Covariance SDE: Shaped Infinite Depth-and-Width Networks at Initialization

Foundations of Deep Learning, University of Maryland — Sept 2022
Neural Covariance SDE: Shaped Infinite Depth-and-Width Networks at Initialization

CONTRIBUTED **TALKS**	Statistical Society of Canada Annual Meeting *Neural Covariance SDE: Shaped Infinite Depth-and-Width Networks at Initialization*	May 2023
	Institute of Mathematical Statistics Annual Meeting *Analysis of Langevin Monte Carlo from Poincaré to Log-Sobolev*	June 2022
	Statistical Society of Canada Annual Meeting *Analysis of Langevin Monte Carlo from Poincaré to Log-Sobolev*	May 2022
	Statistical Society of Canada Annual Meeting *Riemannian Langevin Algorithm for Solving Semidefinite Programs*	May 2021
PEER **REVIEW**	Journal of Machine Learning Research (JMLR) Transactions on Machine Learning Research (TMLR) SIAM Journal on Mathematics of Data Science (SIMODS) Journal of Computational and Graphical Statistics (JCGS) Neural Information Processing Systems (NeurIPS) International Conference on Learning Representations (ICLR) International Conference on Machine Learning (ICML)	