

Daogao Liu

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EDUCATION

University of Washington, Seattle, US
Ph.D. in Computer Science,

2020.09 - present
Advised by Prof. Yin Tat Lee

Tsinghua University, Beijing, China
B.S. in Physics and Mathematics

2016.09 - 2020.06
Advised by Prof. Jian Li

RESEARCH INTEREST

Differential Privacy; Algorithm Design; Convex Optimization

PUBLICATIONS

- [1] Hu Fu, Jiawei Li, **Daogao Liu**. Pandora Box Problem with Nonobligatory Inspection: Hardness and Improved Approximation Algorithms. *Accepted by STOC 2023. Arxiv link*
- [2] Sivakanth Gopi, Yin Tat Lee, **Daogao Liu**, Ruoqi Shen, Kevin Tian. Private Convex Optimization in General Norms. *Accepted by SODA 2023. Arxiv link*
- [3] Yaonan Jin, **Daogao Liu**, Zhao Song. Super-resolution in High Dimension: (Nearly) Linear Running Time and Sample Complexity. *Accepted by SODA2023. Arxiv link*
- [4] Ziqi Wang, Yuexin Wu, Frederick Liu, **Daogao Liu**, Le Hou, Hongkun Yu, Jing Li, Heng Ji. Augmentation with Projection: Towards an Effective and Efficient Data Augmentation Paradigm for Distillation. *Accepted by ICLR 2023. Arxiv link*
- [5] Xuechen Li, **Daogao Liu**, Tatsunori Hashimoto, Huseyin A Inan, Janardhan Kulkarni, Yin Tat Lee, Abhradeep Guha Thakurta. When Does Differentially Private Learning Not Suffer in High Dimensions? *Accepted by Neurips 2022. Arxiv link*
- [6] Sivakanth Gopi, Yin Tat Lee, **Daogao Liu**. Private convex optimization via exponential mechanism. *Accepted by COLT 2022. Arxiv link*
- [7] **Daogao Liu**. Better Private Algorithms for Correlation Clustering. *Accepted by COLT 2022. Arxiv link*
- [8] Jian Li, **Daogao Liu**. Multi-token Markov Game with Switching Costs. *Accepted by SODA 2022. Arxiv link*
- [9] Janardhan Kulkarni, Yin Tat Lee, **Daogao Liu**. Private Non-smooth ERM and SCO in Subquadratic Steps. *Accepted by Neurips 2021, Spotlight. Arxiv link*
- [10] Haotian Jiang, Jian Li, **Daogao Liu**, Sahil Singla. Algorithms and Adaptivity Gaps for Stochastic k-TSP. *Accepted by ITCS 2020.. Arxiv link*
- [11] **Daogao Liu**. More efficient Algorithms for Stochastic Diameter and Some Unapproximated Problems in Metric Space. *Accepted by COCOON 2019.*

MANUSCRIPTS

- [1] Sivakanth Gopi, Yin Tat Lee, **Daogao Liu**, Ruoqi Shen, Kevin tian. Algorithmic Aspects of the Log-Laplace Transform and a Non-Euclidean Proximal Sampler. *In submission.*
- [2] Arun Ganesh, **Daogao Liu**, Sewoong Oh, Abhradeep Thakurta. Private (Stochastic) Non-Convex Optimization Revisited: Second-Order Stationary Points and Excess Risks. *In submission.*
- [3] Yangsibo Huang, Haotian Jiang, **Daogao Liu**, Mohammad Mahdian, Jieming Mao, Vahab Mirrokni. Learning across Data Owners with Joint Differential Privacy. *In submission.*

- [4] Yangsibo Huang, **Daogao Liu**, Zexuan Zhong, Weijia Shi, YinTat Lee. Adapter: Efficient Domain Adaptation for Black-Box Language Models. *In submission*.
- [5] Yair Carmon, Arun Jambulapati, Yujia Jin, Yin Tat Lee, **Daogao Liu**, Aaron Sidford, Kevin Tian. ReSQueueing Parallel and Private Stochastic Convex Optimization. *In submission*. *Improves the stochastic convex optimization problem in parallel and DP setting. In particular, it achieves nearly linear time for DP-SCO in low-dimension settings*.
- [6] **Daogao Liu**, Zhou Lu. The Convergence Rate of SGD's Final Iterate: Analysis on Dimension Dependence. *Partially resolved a COLT 2020 open problem*. *Arxiv link*
- [7] YinTat Lee, **Daogao Liu**, Zhou Lu. Unconstrained Private ERM: Dimension-independent Utility via Exponential Mechanism and Non-Euclidean Lower Bounds. *In submission*.

SELECTED AWARDS

- Ye Qisun Nomination Award (Nomination of The highest honor of Physics undergraduate) 2020
- Scholarship for Comprehensive excellence, Tsinghua University 2019
- Academic Excellence Award, Tsinghua University 2019
- Science and Technology Innovation Award, Tsinghua University 2019
- Scholarship for Excellent Cultural Activities, Tsinghua University 2018

SERVICE

Subreviewers for SODA 2023, FOCS 2022/2021, Random 2020