Chung-En Tsai

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Links: Personal website, Google scholar, Github, LinkedIn

RESEARCH INTERESTS

Learning theory, optimization (convex, non-convex, combinatorial), dynamical systems, and numerical analysis.

EDUCATION

National Taiwan University (NTU), Taipei, Taiwan — Sep 2019 — Jun 2023
B.S. in Computer Science and Information Engineering (CSIE) — GPA: 4.23/4.30
Minister of the Academic Department of the 44th NTU CSIE Student Council — Rank: 5/123

ACADEMIC EXPERIENCE

Laboratory of Learning Theory and Optimization Methods, NTU — Taipei, Taiwan
Research Assistant — Sep 2021 — Present
Teaching Assistant of CSIE5410: Optimization Algorithms — Feb 2024 — Jun 2024
Teaching Assistant of CSIE5062: Online Convex Optimization — Sep 2023 — Dec 2023
Teaching Assistant of CSIE5002: Prediction, Learning, and Games — Feb 2023 — Jun 2023
Advisor: Prof. Yen-Huan Li

Mathematics Division, National Center for Theoretical Sciences — Taipei, Taiwan
Undergraduate Research Assistant — Sep 2022 — Jun 2023
Advisor: Prof. Chun-Hsiung Hsia

Institute of Information Science, Academia Sinica — Taipei, Taiwan
Summer Research Intern — Jul 2022 — Aug 2022
Advisor: Prof. Kai-Min Chung

AWARDS

The Mathematical Society of the Republic of China — Taipei, Taiwan
Outstanding Paper Award — Jan 2024

Department of CSIE, NTU — Taipei, Taiwan
Undergraduate Research Award — Jul 2022, Jul 2023
Dean's List — Jul 2020, Dec 2022

RESEARCH PAPERS

[1] Chung-En Tsai, Hao-Chung Cheng, and Yen-Huan Li. Online self-concordant and relatively smooth minimization, with applications to online portfolio selection and learning quantum states. In *Proc. 34th Int. Conf. Algorithmic Learning Theory (ALT)*, pages 1481–1483, 2023.

[2] Chung-En Tsai, Hao-Chung Cheng, and Yen-Huan Li. Faster stochastic first-order method for maximum-likelihood quantum state tomography. In *Int. Conf. Quantum Information Processing (QIP)*, 2023.

[3] Chung-En Tsai, Ying-Ting Lin, and Yen-Huan Li. Data-dependent bounds for online portfolio selection without Lipschitzness and smoothness. In *Conf. Neural Information Processing Systems (NeurIPS)*, 2023.

[4] Chung-En Tsai, Hao-Chung Cheng, and Yen-Huan Li. Improved dimension and sample size scalability for maximum-likelihood state tomography and approximating PSD permanents. In *Int. Conf. Quantum Information Processing (QIP)*, 2024.

[5] Chung-En Tsai, Hao-Chung Cheng, and Yen-Huan Li. Fast minimization of expected logarithmic loss via stochastic dual averaging. In *Int. Conf. Artificial Intelligence and Statistics (AISTATS)*, 2024.

[6] Guan-Ren Wang, Chung-En Tsai, Hao-Chung Cheng, and Yen-Huan Li. Computing Augustin information via hybrid geodesically convex optimization. *arXiv preprint*, 2024.