

Luofeng Liao

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Education

Columbia University	Ph.D. candidate in operations research	9/2021-present
University of Chicago	M.S. in Statistics	9/2019-1/2021
Fudan University	B.S. in Computer Science, Shanghai, CN (rank 2/41)	9/2015-6/2019

Internships and Projects

Crouse project, Diffusion Models (Python)

Reproduced and improved the classical DDIM diffusion models.

Machine Learning SWE Intern, Meta (Python) NYC, US, 05/2024-08/2024

Developed causally robust AB test methods for ads auction platform. Received full-time return offer.

Summer Associate Intern, Goldman Sachs (Pandas, Numpy) NYC, US, 06/2023-08/2023

Developed data augmentation and variance reduction methods for stock price time series..

Research Scientist Intern, JD.com Inc. (Python) Beijing, CN, 03/2021-08/2021

Developed distributed algorithms for adversarial training which led to a publication in *Machine Learning*.

Quality Assurance Engineer Intern, Splunk Inc. (Python) Shanghai, CN, 2019

Developer, [Data-driven Principal Component Analysis](#), (C++, R, Travis CI) 2019

Sponsored by Google Summer of Code 2019

Developer, [GPU-accelerated Bayesian Regression](#), (CUDA C, Matlab) 2018

Selected Research Papers

Auction, Autobidding & AB Test

Preprint Interference among First-Price Auction Equilibria: A Bias and Variance Analysis. L. Liao, C. Kroer, et al.

ICML2023 Statistical Inference and A/B Testing for First-Price Auction Equilibrium. L. Liao, C. Kroer.

Fair & Efficient Allocation

AAAI2024 Greedy-Based Online Fair Allocation with Adversarial Input. Z. Yang, L. Liao, C. Kroer.

NeurIPS2022 Nonstationary Dual Averaging and Fair Online Allocation. L. Liao, Y. Gao, C. Kroer.

Causal Inference

Machine Learning Local AdaGrad-Type Algorithm for Stochastic Minimax Problems. L. Liao, et al.

JMLR Instrumental Variable Value Iteration for Causal Offline Reinforcement Learning. L. Liao*, Z. Fu*, et al.

NeurIPS2020 Provably Efficient Neural Estimation of Structural Equation Model. L. Liao, et al.

Invited Talks

Accepted presentation, TTIC Workshop on Online Decision Making for Real-World Applications, Chicago, 7/2022

Accepted presentation, Columbia Workshop on Fairness in Operations and AI, New York, 11/2023

Invited talk, A/B Experimentation in Market Equilibria, hosted by Meta Experimentation & Market Algo team, online, 03/2023

Invited talk, 2023 INFORMS, Revenue Management and Pricing section, Phoenix, 10/2023

Accepted presentation, Stanford Rising Stars Workshop, Stanford, 04/2024

Spotlight talk, 2024 EC Workshops on Frontiers of Online Advertising, New Heaven, 07/2024

Invited talk, 2024 INFORMS, A/B Tests and Experiment Design section, Seattle, 10/2024

Skills

Languages and Dialects: Mandarin and Cantonese (native), English (fluent)

Programming Languages and Tools: Python, SQL, R, Matlab, C++, Linux shell, Latex, git, vim