

Zhiyuan Fan

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EDUCATION

- **Massachusetts Institute of Technology.** Sept. 2023 - present
 - Ph.D. student in Computer Science, advised by Gabriele Farina.
 - **Master of Science in Electrical Engineering and Computer Science.** Feb. 2026
- **Tsinghua University.** Sept. 2019 - June. 2023
 - **Bachelor of Computer Science and Technology.**
 - Institute for Interdisciplinary Information Science. (Also known as Yao Class, founded by Prof. Andrew Yao in 2005.)
 - Overall GPA 3.91/4.00, Top 25%.
 - Relevant Courses: Machine Learning (A), Algorithm Design (A+), Theory of Computation (A+), Fundamentals of Cryptography (A+), Game Theory (A), Mathematics for Computer Science (A), Causal and Statistical Learning (A).
 - **Yao Award**, Silver Medal. *Yao Award is established to recognize the outstanding performances of Yao Class students.*

RESEARCH INTERESTS

- Practical and Provable Approaches to Mastering or Finding Equilibria in Competitive Games

PUBLICATIONS

(* stands for equal contribution)

- **Online Learning and Equilibrium Computation with Ranking Feedback**
Mingyang Liu*, Yongshan Chen*, **Zhiyuan Fan**, Gabriele Farina, Asuman E. Ozdaglar & Kaiqing Zhang
Accepted at the 14th International Conference on Learning Representations (ICLR 2026).
Oral.
- **On the Universal Near Optimality of Hedge in Combinatorial Settings**
Zhiyuan Fan*, Arnab Maiti*, Kevin Jamieson, Lillian J. Ratliff & Gabriele Farina
Accepted at the 39th Annual Conference on Neural Information Processing Systems (NeurIPS 2025).
Spotlight.
- **Efficient Near-Optimal Algorithm for Online Shortest Paths in Directed Acyclic Graphs with Bandit Feedback**
Arnab Maiti*, **Zhiyuan Fan***, Kevin Jamieson, Lillian J. Ratliff & Gabriele Farina
Accepted at the 38th Annual Conference on Learning Theory (COLT 2025).
- **On the Optimality of Dilated Entropy and Lower Bounds for Online Learning in Extensive-Form Games.**
Zhiyuan Fan, Christian Kroer & Gabriele Farina
Accepted at the 38th Annual Conference on Neural Information Processing Systems (NeurIPS 2024).
- **Achieving Constant Regret in Linear Markov Decision Processes.**
Weitong Zhang*, **Zhiyuan Fan***, Jiafan He & Quanquan Gu
Accepted at the 38th Annual Conference on Neural Information Processing Systems (NeurIPS 2024).
- **Efficient Algorithms for Sparse Moment Problems without Separation.**
Zhiyuan Fan & Jian Li. (alphabet order)
Accepted at the 36th Annual Conference on Learning Theory (COLT 2023).
- **On the Interplay Between Misspecification and Sub-optimality Gap in Linear Contextual Bandits.**
Weitong Zhang, Jiafan He, **Zhiyuan Fan** & Quanquan Gu.
Accepted at the 40th International Conference on Machine Learning (ICML 2023).
- **OpenFE: Automated Feature Generation beyond Expert-level Performance.**
Tianping Zhang, Zheyu Zhang, **Zhiyuan Fan**, Haoyan Luo, Fengyuan Liu, Wei Cao & Jian Li.
Accepted at the 40th International Conference on Machine Learning (ICML 2023).

- **The Exact Complexity of Pseudorandom Functions and the Black-Box Natural Proof Barrier.**
Zhiyuan Fan, Jiayu Li & Tianqi Yang. (alphabet order)
Accepted at the 54th Annual ACM Symposium on Theory of Computing (STOC 2022).
Best Student Paper co-winner.

EXPERIENCE

- **Internship** at ByteDance Summer 2025
 - Researched reliable scaling (μP) in LLMs, characterizing how learning rate and weight decay jointly affect training.

AWARDS AND HONORS

- **Yao Award**, Silver Medal (3/62) 2022
- **STOC 2022**, Danny Lewin Best Student Paper Award 2022
- Scholarship of Tsinghua University
 - Scientific Innovation Excellence Award 2022
 - Academic Excellence Award (twice) 2021, 2022
- International Collegiate Programming Contest
 - ICPC Asia Shanghai Regional Contest, Gold Medal (rank 2) 2019
 - ICPC Asia-East Continent Final Contest, Gold Medal 2019
- China Collegiate Programming Contest
 - CCPC Qinghuangdao Regional Contest, Gold Medal (rank 2) 2019
- Chinese National Olympiad in Informatics, Gold Medal (twice) 2017, 2018

TEACHING EXPERIENCE

- **Teaching Assistant** of Nonlinear Optimization at MIT Spring 2025
- **Teaching Assistant** of Topics in Multiagent Learning at MIT Fall 2024
- **Teaching Assistant** of Fundamentals of Cryptography at Tsinghua University Spring 2023

PROFESSIONAL ACTIVITIES AND SERVICE

- **Conference Reviewing:** ICLR 2025, 2026; ICML 2025, 2026; Neurips 2024, 2025; ALT 2024, 2025, 2026

SKILLS

- **Programming Languages:** C++, Python, Go, SQL, MATLAB
- **Tools and Frameworks:** PyTorch, Matplotlib, \LaTeX , Git, MySQL