

Zhiyuan Fan

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EDUCATION

- **Massachusetts Institute of Technology**, Ph.D. student in Computer Science Sept. 2023 - present
- Advised by Gabriele Farina
- **Tsinghua University, Bachelor of Computer Science and Technology.** Sept. 2019 - June. 2023
- 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

- Computational Game Theory, Learning Theory, Algorithms.

PUBLICATIONS

(* stands for equal contribution)

- **On the Optimality of Dilated Entropy and Lower Bounds for Online Learning in Extensive-Form Games.**
Zhiyuan Fan, Christian Kroer & Gabriele Farina
To appear in NeurIPS 2024.
- **Achieving Constant Regret in Linear Markov Decision Processes.**
Weitong Zhang*, Zhiyuan Fan*, Jiafan He & Quanquan Gu
To appear in 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.

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 Topics in Multiagent Learning at MIT 2024
- Teaching Assistant of Fundamentals of Cryptography at Tsinghua University 2023

PROFESSIONAL ACTIVITIES AND SERVICE

- **Conference Reviewing:** ALT 2024, Neurips 2024, ALT 2025, ICLR 2025

SKILLS

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