Zhiyuan Fan

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EDUCATION

- **Massachusetts Institute of Technology**, Ph.D. student in Computer Science   Sept. 2023 - present
  - Adviced 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

- Game Theory, Algorithm Design.

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
  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, Jiatu 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