YAN DAI

⌂ https://yandaichn.github.io/   ✉ yandai20@mit.edu

EDUCATION

Massachusetts Institute of Technology Operations Research Center   2024 — Now

PhD student in Operations Research co-advised by Prof. Patrick Jaillet and Prof. Negin Golrezaei.

Tsinghua University Andrew C. Yao Class   2020 — 2024

Bachelor of Engineering in Computer Science and Technology. GPA: 3.99/4.00.

RESEARCH EXPERIENCES

Massachusetts Institute of Technology ORC (Cambridge, MA)   Sep. 2024 — Now

Research assistant of Prof. Patrick Jaillet and Prof. Negin Golrezaei.

Tsinghua University Andrew C. Yao Class (Beijing, China)   Feb. — Jun. 2024

Bechelor's thesis advised by Prof. Longbo Huang.

University of Washington School of CSE (Seattle, WA)   Jun. — Aug. 2023

Visiting student hosted by Prof. Simon S. Du.

Massachusetts Institute of Technology LIDS (Cambridge, MA)   Feb. — May 2023

Visiting student hosted by Prof. Suvrit Sra.

University of Southern California CS Department (Remote)   Feb. — Dec. 2022

Remote visitor of Prof. Haipeng Luo.

Tsinghua University Andrew C. Yao Class (Beijing, China)   Jun. — Dec. 2021

Research assistant of Prof. Longbo Huang.

PUBLICATIONS

(* stands for equal contribution. Listed reverse chronologically.)

Journal Publications and Working Drafts

[12] Yan Dai, Negin Golrezaei, and Patrick Jaillet. "Incentive-Aware Dynamic Resource Allocation under Long-Term Cost Constraints."

[11] **[COLT'25]** Yan Dai, Moïse Blanchard, and Patrick Jaillet. "Non-Monetary Mechanism Design without Distributional Information: Using Scarce Audits Wisely." [Preprint]

[10] **[POMACS & SIGMETRICS'25]** Yan Dai and Longbo Huang. "Adversarial Network Optimization under Bandit Feedback: Maximizing Utility in Non-Stationary Multi-Hop Networks." [ACM Journal Page] Won *Best Paper Award* at ACM SIGMETRICS'25 conference.

Conference Publications

[9] **[ICLR'25]** Yu Chen*, Jiatai Huang*, Yan Dai*, and Longbo Huang. "uniINF: Best-of-Both-Worlds Algorithm for Parameter-Free Heavy-Tailed MABs." *Spotlight Paper (5.1%).* [Preprint] [OpenReview]

[8] **[COLT'24]** Yan Dai, Qiwen Cui, and Simon S. Du. "Refined Sample Complexity for Markov Games with Independent Linear Function Approximation." [Preprint] [Proceeding (Extended Abstract)]

[7] **[ICML'24]** Kwangjun Ahn, Zhiyu Zhang, Yunbum Kook, and Yan Dai. "Understanding Adam Optimizer via Online Learning of Updates: Adam is FTRL in Disguise." [Preprint] [Proceeding]

[6] **[NeurIPS'23]** Yan Dai*, Kwangjun Ahn*, and Suvrit Sra. "Curious Role of Normalization in Sharpness-Aware Minimization." [Preprint] [OpenReview] [Proceeding]

[5] **[ICML'23]** Yan Dai, Haipeng Luo, Chen-Yu Wei, and Julian Zimmert. "Refined Regret for Adversarial MDPs with Linear Function Approximation." [Preprint] [Proceeding]

[4] **[ICML'23]** Jiatai Huang*, Yan Dai*, and Longbo Huang. "Banker Online Mirror Descent: A Universal Approach for Delayed Online Bandit Learning." [Preprint] [Proceeding]

[3] **[ICLR'23]** Yan Dai, Ruosong Wang, and Simon S. Du. "Variance-Aware Sparse Linear Bandits." [Preprint] [OpenReview]

[2] **[NeurIPS'22]** Yan Dai, Haipeng Luo, and Liyu Chen. "Follow-the-Perturbed-Leader for Adversarial Markov Decision Processes with Bandit Feedback." [Preprint] [OpenReview] [Proceeding]

[1] **[ICML'22]** Jiatai Huang*, Yan Dai*, and Longbo Huang. "Adaptive Best-of-Both-Worlds Algorithm for Heavy-Tailed Multi-Armed Bandits." [Preprint] [Proceeding]

RESEARCH AWARDS AND SCHOLARSHIPS

Research Awards

- Best Paper Award at ACM SIGMETRICS'25 conference. Jun. 2025
  Paper title: *Adversarial Network Optimization under Bandit Feedback: Maximizing Utility in Non-Stationary Multi-Hop Networks*.

Fellowship and Scholarship

- Outstanding Graduate named by Beijing *(5%)*, by Tsinghua *(2%)*, and by Yao Class *(10%)*. Jun. 2024
- Presidential Scholarship *(top scholarship for Tsinghua undergrads; 10/16,000+)*, Tsinghua. Nov. 2023
- Andrew C. Yao Award – Gold Medal *(top scholarship for seniors; 1 student)*, Yao Class. Sep. 2023

Competitive Programming

- Gold Medal *(1st place with perfect score)*, Asia-Pacific Informatics Olympiad (APIO). May 2019
- Gold Medal *(5th place)*, Chinese National Olympiad in Informatics (NOI). Jul. 2018
- Gold Medal, IOI China Team Selection Competition (CTSC). May 2018

Miscellaneous

- 1st Place, MIT Intramurals League on Water Polo. Apr. 2023
- 2nd Place, National Collegiate Water Polo Championships. Jun. 2021
- 1st Place, Tsinghua Swimming Competition on Men's 100m Butterfly. Nov. 2021
- 3rd Place, Tsinghua Swimming Competition on Men's 200m Medley. Nov. 2021

PROFESSIONAL SERVICES

Journal Reviewing. Journal of Machine Learning (JMLR) 2024, Performance Evaluation 2024.
Conference Reviewing. COLT 2025, ICML 2025 / 2023, NeurIPS 2025 / 2024 / 2023 / 2022, ICLR 2025 / 2024, AISTATS 2025 / 2023 / 2022, ALT 2023.