Yan DAI

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Education

Operations Research Center (ORC), Massachusetts Institute of Technology 2024 — Present
PhD student in Operations Research advised by **Prof. Patrick Jaillet**.

Yao Class, Institute for Interdisciplinary Information Sciences (IIIS), Tsinghua 2020 — 2024
Bachelor of Engineering in Computer Science and Technology. GPA: **3.99/4.00**.
Thesis: *Online Learning Algorithms in Stochastic Network Optimization*; advised by **Prof. Longbo Huang**.

Research Experiences

ORC, Massachusetts Institute of Technology (Cambridge, MA, USA) Sep. 2024 — Present
Research assistant of **Prof. Patrick Jaillet**.

IIIS, Tsinghua University (Beijing, China) Feb. 2024 — Jun. 2024
Bechelor's thesis advised by **Prof. Longbo Huang**.

Paul G. Allen School, University of Washington (Seattle, WA, USA) Jun. 2023 — Aug. 2023
Visiting student hosted by **Prof. Simon S. Du**.

LIDS, Massachusetts Institute of Technology (Cambridge, MA, USA) Feb. 2023 — May 2023
Visiting student hosted by **Prof. Suvrit Sra**.

Department of CS, University of Southern California (Remote) Nov. 2021 — Jan. 2023
Remote visitor advised by **Prof. Haipeng Luo**.

Paul G. Allen School, University of Washington (Remote) Nov. 2021 — Mar. 2022
Remote visitor advised by **Prof. Simon S. Du**.

IIIS, Tsinghua University (Beijing, China) Jun. 2021 — Jan. 2022
Research assistant of **Prof. Longbo Huang**.

Publications

(* stands for equal contribution; Listed in reverse chronological order.)

Conference Publications

[9] **(ACM SIGMETRICS 2025)** Yan Dai and Longbo Huang. "Adversarial Network Optimization under Bandit Feedback: Maximizing Utility in Non-Stationary Multi-Hop Networks." Accepted to *the 2025 Annual Conference of the ACM Special Interest Group on Performance Evaluation*. [PDF]

[8] **(COLT 2024)** Yan Dai, Qiwen Cui, and Simon S. Du. "Refined Sample Complexity for Markov Games with Independent Linear Function Approximation." In *Proceedings of the Thirty Seventh Conference on Learning Theory*, PMLR 247:1260-1261. [PDF] [Proceeding (Extended Abstract)]

[7] **(ICML 2024)** Kwangjun Ahn, Zhiyu Zhang, Yunbum Kook, and Yan Dai. "Understanding Adam Optimizer via Online Learning of Updates: Adam is FTRL in Disguise." In *Proceedings of the 41st International Conference on Machine Learning*, PMLR 235:619-640. [PDF] [OpenReview] [Proceeding]

[6] **(NeurIPS 2023)** Yan Dai*, Kwangjun Ahn*, and Suvrit Sra. "The Crucial Role of Normalization in Sharpness-Aware Minimization." In *Advances in Neural Information Processing Systems 36*, 67741-67770. [PDF] [OpenReview] [Proceeding]

[5] **(ICML 2023)** Yan Dai, Haipeng Luo, Chen-Yu Wei, and Julian Zimmert. "Refined Regret for Adversarial MDPs with Linear Function Approximation." In *Proceedings of the 40th International Conference on Machine Learning*, PMLR 202:6726-6759. [PDF] [Proceeding]

[4] **(ICML 2023)** Jiatai Huang*, Yan Dai*, and Longbo Huang. "Banker Online Mirror Descent: A Universal Approach for Delayed Online Bandit Learning." In *Proceedings of the 40th International Conference on Machine Learning*, PMLR 202:13814-13844. [PDF] [Proceeding]

[3] **(ICLR 2023)** Yan Dai, Ruosong Wang, and Simon S. Du. "Variance-Aware Sparse Linear Bandits." In *the Eleventh International Conference on Learning Representations*. [PDF] [OpenReview]

[2] **(NeurIPS 2022)** Yan Dai, Haipeng Luo, and Liyu Chen. "Follow-the-Perturbed-Leader for Adversarial Markov Decision Processes with Bandit Feedback." In *Advances in Neural Information Processing Systems 35*, 11437-11449. [PDF] [OpenReview] [Proceeding]

[1] **(ICML 2022)** Jiatai Huang*, Yan Dai*, and Longbo Huang. "Adaptive Best-of-Both-Worlds Algorithm for Heavy-Tailed Multi-Armed Bandits." In *Proceedings of the 39th International Conference on Machine Learning*, PMLR 162:9173-9200. [PDF] [Proceeding]

Selected Awards and Scholarships

Scholarships

- Presidential Scholarship *(top scholarship for Tsinghua undergrads; 10 per year)*, Tsinghua. Nov. 2023
- Andrew C. Yao Award – Gold Medal *(top scholarship for Yao Class seniors; 1 student)*, IIIS. Sep. 2023
- National Scholarship *(top scholarship in China; 0.2% domestically)*, Ministry of Education. Dec. 2022
- SenseTime AI Scholarship *(awarded to 30 students in AI research domestically)*, SenseTime. Dec. 2022
- "12·9" Scholarship *(top scholarship for Tsinghua sophomores; 1 student per major)*, Tsinghua. Dec. 2021

Competitive Programming in High School

- 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

Miscellaneous

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

Professional Services

Journal Reviewing: JMLR 2024.
Conference Reviewing: NeurIPS 2024 / 2023 / 2022, ICLR 2025 / 2024, ICML 2023, ALT 2023, AISTATS 2025 / 2023 / 2022.