

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
Bachelor'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 reverse chronologically.)

Manuscripts

- [10] YU CHEN*, JIATAI HUANG*, [YAN DAI*](#), and LONGBO HUANG. “uniINF: Best-of-Both-Worlds Algorithm for Parameter-Free Heavy-Tailed MABs.” *In submission*. [PDF]

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 Annual Conference of the ACM Special Interest Group on Performance Evaluation*, 2025. [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 37th Conference on Learning Theory*, PMLR 247:1260–1261, 2024. [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, 2024. [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, 2023. [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, 2023. [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, 2023. [PDF] [Proceeding]
- [3] **(ICLR 2023)** [YAN DAI](#), RUOSONG WANG, and SIMON S. DU. “Variance-Aware Sparse Linear Bandits.” In *the 11th International Conference on Learning Representations (ICLR)*, 2023. [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, 2022. [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, 2022. [PDF] [Proceeding]

SELECTED AWARDS AND SCHOLARSHIPS

Scholarships

- Presidential Scholarship (*top scholarship for Tsinghua undergrads; 10/16,000+*), 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
- Gold Medal, Asia-Pacific Informatics Olympiad (APIO). May 2018
- Gold Medal, IOI China Team Selection Competition (CTSC). May 2018
- Gold Medal, Chinese Olympiad in Informatics Winter Camp (WC). Feb 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. JMLR 2024.

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