Yan Dai

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Education

Institute for Interdisciplinary Information Sciences, Tsinghua University   2020 — Present

Computer Science and Technology (Special Pilot Class in CS, *a.k.a.* Yao Class). GPA: 3.99/4.00.

Research Experiences

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)   Feb. 2022 — 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.)

Manuscripts

[8] Yan Dai, Qiwen Cui, and Simon S. Du. "Refined Sample Complexity for Markov Games with Independent Linear Function Approximation."

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

Conference Publications

[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*. [PDF]

[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*. [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

Reviewing: ICLR 2024, NeurIPS 2023, ICML 2023, ALT 2023, AISTATS 2023, NeurIPS 2022, AISTATS 2022.