Yixuan (Even) Xu

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Education

Tsinghua University, Beijing, China	**Sep 2020 – Now**
Bachelors of Engineering in Computer Science (Yao Class)	*GPA: 4.0/4.0 Rank: 1/77*

Coursework: Algorithm Design A+, Game Theory A+, Theory of Computation A+

Experience

Carnegie Mellon University	**Feb 2023 – Sep 2023**
Research Intern	*Advisors: Fei Fang and Vincent Conitzer*

Beijing Academy of Artificial Intelligence	**Apr 2021 – Sep 2021**
Research Intern	*Advisors: Yang Yuan*

Publications and Accepted Papers

Learning Coalition Structures with Games

Authors: ***Yixuan Even Xu**, Chun Kai Ling, Fei Fang*   **AAAI 2024**

- We propose and study the Coalition Structure Learning problem under one-bit observation and present a novel Iterative Grouping (IG) algorithm to efficiently tackle it, achieving a sample complexity asymptotically matching lower bounds.

Non-Excludable Bilateral Trade Between Groups

Authors: ***Yixuan Even Xu**, Hanrui Zhang, Vincent Conitzer*   **AAAI 2024**

- We generalize the traditional bilateral trade problem to a non-excludable setting, where we characterize feasible mechanisms, give a mechanism with all desiderata in some cases, and prove hardness results for others.

A One-Size-Fits-All Approach to Improving Randomness in Paper Assignment

Authors: ***Yixuan Even Xu**, Steven Jecmen, Zimeng Song, Fei Fang*   **Spotlight at NeurIPS 2023**

- ArXiv preprint available at https://arxiv.org/abs/2310.05995.
- We identify the importance of randomness in paper assignment and formally formulate the problem, where we propose an algorithm that theoretically and empirically outperforms the currently deployed algorithm for randomized assignment.

On the Perturbation Function of Ranking and Balance for Weighted Online Bipartite Matching

Authors: *Jingxun Liang*, Zhihao Gavin Tang*, **Yixuan Even Xu***, Yuhao Zhang*, Renfei Zhou**   **ESA 2023**

- Published version available at https://doi.org/10.4230/LIPIcs.ESA.2023.80.
- We prove the uniqueness of a function used in the optimal algorithms for the AdWords Problem and the Vertex Weighted Online Bipartite Matching Problem and refute a previous conjecture about a well-known algorithm for AdWords.

Manuscripts

Aggregating Quantitative Relative Judgements:
From Social Choice to Interpretable Ranking Prediction

Authors: ***Yixuan Even Xu**, Hanrui Zhang, Yu Cheng, Vincent Conitzer*   **May 2023 – Aug 2023**

- To be submitted to **IJCAI 2024**.
- We study the quantitative judgment aggregation problem in social choice, where we propose QRJA rules and study their computational properties. We also show it empirically offers effective and interpretable contest ranking predictions.

Bidder Selection Problem in Position Auctions via Poisson Approximation

Authors: *Nick Gravin*, **Yixuan Even Xu***, Renfei Zhou**   **Jul 2022 – Jan 2023**

- Submitted to **WWW 2024**, under review.
- ArXiv preprint available at https://arxiv.org/abs/2306.10648.
- We propose a novel Poisson-Chernoff relaxation of the Bidder Selection Problem for Position Auctions and give a PTAS (Polynomial-Time Approximation Scheme) that is useful and efficient in practice.

Honors and Awards (Selected)

National Scholarship | Ministry of Education | Top scholarship in China, 0.2% domestically	**Oct 2021**
Jiang Nanxiang Scholarship | Tsinghua University | Top scholarship in Tsinghua, 1 student per major	**Oct 2022**
Wang Dazhong Scholarship | Tsinghua University | Top scholarship in Tsinghua, 1 student per major	**Nov 2023**
Andrew C. Yao Award (Silver Medal) | IIIS | Top scholarship in Yao Class, 4 students institute-wide	**Sep 2023**

Competitive Programming (Selected)

ICPC Asia-East Continent Final Contest | Rank 3rd, **Second Place**	**Jul 2022**
ICPC Asia Kunming Regional Contest | Rank 1st, **First Place**	**Apr 2022**
China Collegiate Programming Contest Final | Rank 3rd, **Gold Medal**	**May 2021**
ICPC Beijing Xiaomi Invitational Contest | Rank 1st, **First Place**	**Nov 2020**
National Olympiad in Informatics 2019 | Rank 8th, **Gold Medal**	**Jul 2019**
Asia-Pacific Informatics Olympiad 2018 | Rank 7th, **International Gold Medal**	**May 2018**
China Team Selection Competition 2018 | Rank 11th, **Gold Medal**	**May 2018**
CCF NOI Winter Camp | Rank 27th, **Gold Medal**	**Feb 2017**

Teaching

Design and Analysis of Algorithms (Graduate-level) | **Teaching Assistant**	**Fall 2023**
Drop-in Tutoring for STEM Courses of Tsinghua University | **Volunteer**	**Mar 2022 – Now**

Seminars

Yaoclass Seminar | **Host**	**Fall 2023**

Others

TOEFL: Total 114, Reading 30, Listening 28, Speaking 28, Writing 28
GRE: Total 336 + 5, Verbal 166, Quantitative 170, Writing 5
Programming Languages: C & C++, LaTeX, Python, Verilog, Matlab
Community Engagement: I have 132.5 hours of officially recorded volunteering work at Tsinghua University
Hobbies: Guitar Playing (Level 10 Amateur), Writing, Singing, Competitive Programming