

YIXUAN (EVEN) XU

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Education

Tsinghua University, Beijing, China

Bachelors of Engineering in Computer Science (Yao Class)

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

Sep 2020 – Now

GPA: 4.0/4.0 Rank: 1/77

Experience

Carnegie Mellon University

Research Intern

Feb 2023 – Sep 2023

Advisors: Fei Fang and Vincent Conitzer

Beijing Academy of Artificial Intelligence

Research Intern

Apr 2021 – Sep 2021

Advisors: Yang Yuan

Publications and Accepted Papers

Bidder Selection Problem in Position Auctions via Poisson Approximation

Authors: Nick Gravin, **Yixuan Even Xu***, Renfei Zhou**

WWW 2024

- 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.

Learning Coalition Structures with Games

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

AAAI 2024

- ArXiv preprint available at <https://arxiv.org/abs/2312.09058>.
- 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

- ArXiv preprint available at <https://arxiv.org/abs/2312.11800>.
- 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: Jingrun 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.

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
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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