

Yuhang Guo

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Education

University of New South Wales (UNSW Sydney), Sydney, Australia

Ph.D., Computer Science, 2024.01 - Current

Supervisor: Prof. Haris Aziz and Prof. Toby Walsh

University of Electronic Science and Technology of China (UESTC), Chengdu, China

M.S., Computer Science, 2020.09 - 2023.06

GPA: 3.98/4.00 Average Score: 89.26. Rank: 3/422

Supervisor: Prof. Dong HAO

Thesis Title: *Multi-items Auction Mechanism Design over Social Networks*

(Distinguished Master Thesis Award)

University of Electronic Science and Technology of China (UESTC), Chengdu, China

B.S., Mathematical and Applied Mathematics ("Internet+" Plan), 2016.09 - 2020.06

GPA: 3.78/4.00 Average Score: 86.10. Rank: 1/14

Minor in Computer Science, 2018 to 2020.

Publication

1. **Yuhang Guo**, Dong Hao. **Emerging Methods of Auction Design in Social Networks** *In Proceedings of the 30th International Joint Conference on Artificial Intelligence (IJCAI)*, August 2021, pp. 4434-4441.
2. **Yuhang Guo**, Dong Hao, Mingyu Xiao, Bin Li. **Networked Combinatorial Auction for Crowdsourcing and Crowdsensing** *IEEE Internet of Things Journal* 2023, doi: 10.1109/JIOT.2023.3312260
3. **Yuhang Guo**, Dong Hao, Yahui Lei, Qiang Liu. **Nested Search Advertising** *Working Paper*.
4. **Yuhang Guo**, Dong Hao, Bin Li, Mingyu Xiao, Bakhadyr Khoussainov. **Monotone and Implementable Allocations on Graphs** *Working Paper*.
5. Yifan Huang, Dong Hao, **Yuhang Guo**, Bin Li. **Approximate Revenue Maximization for Auction in Networks** *Working Paper*.

Working Experience

1. (Full-time Job) Baidu Inc., Beijing, China. 2023.07 - 2024.01.
Phoenix Nest Sponsored Search Advertising Mechanism Design Group. *Algorithm Engineer*.
(1). **DeepAuction 2.0**: Multi-objective optimization problems with constraints: reinforcement learning based combinatorial optimization for consecutive ad slots allocation. Optimize the platform revenue under ad impressions and user experience constraints.

2. (Internship) Meituan Inc., Beijing, China. 2022.05 - 2022.08.
Sponsored Search Advertising Algorithm Group. *Algorithm Engineer*.
- (1). **Study on the algorithm of pharmaceutical pooled bidding auctions:** a novel ad auction model for online pharmaceutical retailing with bids from retailers and brands. We designed the Nested-GSP mechanisms and analyzed equilibrium bidding strategies in this new scenario.
- (2). **Study on reserved price framework based on information gain tree:** modified traditional tree classification model with new defined information gain function for social welfare and revenue. Improved the granularity of the merchant bid distribution curve, with 3-4% revenue improvement in offline experiments.

Distinction

- *China National Scholarship* (top 0.2% in China) 2021.09
- Outstanding Postgraduate Student (Sichuan Province & UESTC) 2023.06
- China Undergraduate Mathematical Contest in Modeling. *First Prize of Sichuan Province.* 2018.09
- Mathematical Contest In Modeling and Interdisciplinary Contest In Modeling. *Honorable Mention.* 2019.02
- The 4th Chinese Five-minute Scientific Research English Speech Contest. *First Prize* 2021.12
- The 2nd "Digital Sichuan" Innovation Competition of Algorithm Competition Track. *First Price* 2021.12
- 2021 "Zhihui Cup" SPD Baidu College Geek Challenge. *Rank: 10/92* 2022.01
- UESTC Undergraduate Outstanding Student Scholarship 2018,2019
- UESTC Graduate Scholarship 2020.09
- UESTC Graduate Student Scholarship 2021.09

Teaching Experience

- Algorithmic Game Theory** Fall 2020
Teaching Assistant, with Prof. Dong Hao, at UESTC.
- Discrete Mathematics** Spring 2021
Teaching Assistant, with Prof. Dong Hao, at UESTC.

Other Experience

- Outstanding Individual in Summer Social Practice of UESTC. 2018.10
- Top Ten Psychological Committee of UESTC. 2018.05
- Vice President of Ginkgo Guitar Club of UESTC. 2017.06
- Team Member of "One Heart One Dream" Support Team. 2018.07
- Class Instructor of School of Mathematical Sciences "Internet+" Class of UESTC. 2018, 2019.

February 27, 2024