Xizhi Tan

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Research Interests

My research focuses on *algorithmic game theory*, *beyond worst-case analysis*, and *mechanism design*. My thesis title is *Learning-Augmented Mechanism Design*

Employment History

Google Research – Mountain View, CA

Jun 24 -	Student Researcher in Market Algorithms; *Host: Mingfei Zhao*
Jun- Sept 23	Research Intern in Discrete Algorithms; *Host: Greg Hutchins*

Education

Drexel Universty – Philadelphia, PA

Jan 20-	Ph.D. in Computer Science; *Advisor: Vasilis Gkatzelis*
Sept 15- Dec 19	BSc in Mathematics

Honors and Scholarships

2024	**Exemplary Theory Track Paper Award** *for "Online Mechanism Design with Predictions"* by the ACM Conference on Economics and Computation (EC 2024)
2024	**Werner Krandick Teaching Assistant Award** by Department of Computer Science, Drexel University
2023	**Finalist of 2023 Meta Research PhD Fellowship** by Meta
2023	**Jay Modi Memorial Award** *for academic excellence* by Department of Computer Science, Drexel University
2023	**PhD Research Excellence** by College of Computing & Informatics, Drexel University
2022	**Teaching Excellence Award (Graduate)** by College of Computing & Informatics, Drexel University
2019	**Robert J. Bickel Scholarship** *for outstanding academic achievements* by College of Arts & Science, Drexel University
2017	**Philadelphia City Council Citation** *for contributions to the AAPI community* by City of Philadelphia
2016	**William Avery Scholarship** *for excellent performance in freshmen year* by LeBow College of Business, Drexel University
2015 - 2019	**A.J. Drexel Scholarship** *supplemental financial support* by Drexel University
2015 - 2019	**Drexel Grant** *supplemental financial support* by Drexel University

Journal Publications

2024	**Deterministic Budget Feasible Clock Auctions** Eric Balkanski, Pranav Garimidi, Vasilis Gkatzelis, Daniel Schoepflin, Xizhi Tan *Operations Research (forthcoming)*
2023	**Learning-Augmented Mechanism Design: Leveraging Predictions for Facility Location** ⧉ Priyank Agrawal, Eric Balkanski, Vasilis Gkatzelis, Tingting Ou, Xizhi Tan *Mathematics of Operations Research Vol. 49, No. 4*
2023	**Mechanism Design with Predictions: An Annotated Reading List** ⧉ Eric Balkanski, Vasilis Gkatzelis, Xizhi Tan *ACM SIGecom Exchanges, 21.1, pp. 54–57*

Conference Publications

TBD   **Multi-Platform Autobidding with and without Predictions**
Gagan Aggarwal, Anupam Gupta, Xizhi Tan, Mingfei Zhao
under submission

2025   **Clock Auctions Augmented with Unreliable Advice**
Vasilis Gkatzelis, Daniel Schoepflin, Xizhi Tan
36th ACM-SIAM Symposium on Discrete Algorithms (**SODA 2025**)

2024   **Learning-Augmented Metric Distortion via (p, q)-Veto Core** ⌗
Ben Berger, Michal Feldman, Vasilis Gkatzelis, Xizhi Tan
25th ACM Conference on Economics and Computation (**EC 2024**)

2024   **Online Mechanism Design with Predictions** ⌗
Eric Balkanski, Vasilis Gkatzelis, Xizhi Tan, Cherlin Zhu
25th ACM Conference on Economics and Computation (**EC 2024**)
(received **Exemplary Theory Track Paper Award**)

2024   **Getting More by Knowing Less: Bayesian Incentive Compatible Mechanisms for Fair Division** ⌗
Vasilis Gkatzelis, Alexandros Psomas, Xizhi Tan, Paritosh Verma
33rd International Joint Conference on Artificial Intelligence, pp. 2807-2815 (**IJCAI 2024**)

2024   **Extracting Small Subgraphs in Road Network** ⌗
Sara Ahmadian, Sreenivas Gollapudi, Greg Hutchins, Kostas Kollias, Xizhi Tan
33rd ACM Web Conference, pp. 493-502 (**WWW 2024**)

2023   **EFx Budget-Feasible Allocations with High Nash Welfare** ⌗
Marius Garbea, Vasilis Gkatzelis, Xizhi Tan
26th European Conference on Artificial Intelligence, Vol. 372, pp. 795–802 (**ECAI 2023**)

2023   **Strategyproof Scheduling with Predictions** ⌗
Eric Balkanski, Vasilis Gkatzelis, Xizhi Tan
14th Innovations in Theoretical Comp. Sci. Conf., Vol. 251, 11:1–11:22 (**ITCS 2023**)

2022   **Learning-Augmented Mechanism Design: Leveraging Predictions for Facility Location** ⌗
Priyank Agrawal, Eric Balkanski, Vasilis Gkatzelis, Tingting Ou, Xizhi Tan
23rd ACM Conference on Economics and Computation, pp. 497–528 (**EC 2022**)

2022   **Improved Price of Anarchy via Predictions** ⌗
Vasilis Gkatzelis, Kostas Kollias, Alkmini Sgouritsa, Xizhi Tan
23rd ACM Conference on Economics and Computation, pp. 529–557 (**EC 2022**)

2022   **Deterministic Budget Feasible Clock Auctions** ⌗
Eric Balkanski, Pranav Garimidi, Vasilis Gkatzelis, Daniel Schoepflin, Xizhi Tan
33rd ACM-SIAM Symposium on Discrete Algorithms, pp. 2940–2963 (**SODA 2022**)

2021   **Fair and Efficient Online Allocations with Normalized Valuations** ⌗
Vasilis Gkatzelis, Alexandros Psomas, Xizhi Tan
35th AAAI Conference on Artificial Intelligence, pp. 5440–5447. (**AAAI 2021**)

Teaching Experience

Fall 23   **Teaching assistant, CS 457: Data Structures and Algorithms I**

Fall 22   **Teaching assistant, CS 521: Data Structures and Algorithms I (Graduate)**

Fall 21   **Teaching assistant, CS 457: Data Structures and Algorithms I**

Fall 20   **Teaching assistant, CS 457: Data Structures and Algorithms I**

Spring 20   **Teaching assistant, CS 380: Artificial Intelligence**

Research Visits

Aug 22 - Sept 22   **Purdue University** – West Lafayette, IN
Host: Alex Psomas

July 22 - Aug 22   **Columbia University** – New York, NY
Host: Eric Balkaniski

Talks

Online Mechanism Design with Predictions

Nov 24	Stanford MS&E Reading Group
July 24	25rd ACM Conference on Economics and Computation (Award Session)

Deterministic Budget Feasible Clock Auctions

Aug 24	Google MTV Algorithms Reading Group

Learning-Augmented Metric Distortion via (p, q)-Veto Core

July 24	25rd ACM Conference on Economics and Computation
May 24	Yale FDS Student Theory Seminar

Strategyproof Scheduling with Predictions

July 23	Google MTV Algorithms Reading Group
May 23	Rutgers/DIMACS Theory Seminar
Jan 23	14th Innovations in Theoretical Computer Science

Learning-Augmented Mechanism Design

Aug 22	Purdue University
July 22	23rd ACM Conference on Economics and Computation
Apr 22	Drexel Theory Reading Group

Improved Price of Anarchy via Predictions

July 22	23rd ACM Conference on Economics and Computation
May 22	Drexel Theory Reading Group

Fair and Efficient Online Allocations with Normalized Valuations

Feb 21	35th AAAI Conference on Artificial Intelligence

Academic Service

Program Committees: 24th International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2025); 39th Conference on Artificial Intelligence (AAAI 2025)

Journal Reviewer: Mathematics of Operations Research (MOR); Transactions on Economics and Computation (TEAC)

Conference Reviewer/Subreviewer: Symposium on Theory of Computing(STOC), Symposium on Discrete Algorithms (SODA), Conference on Economics and Computation (EC), Neural Information Processing Systems (NeurIPS), International Symposium on Algorithmic Game Theory (SAGT), Symposium on Mathematical Foundations of Computer Science (MFCS), International Conference on Machine Learning (ICML), AAAI Conference on Artificial Intelligence (AAAI), The Web Conference (WWW)

Other Industry Work Experience

Apr 19 - Step 19	**JPMorgan Chase & Co.** – Wilmington, DE *Digital Quality Operations Analyst*
Sept 17 - Mar 18	**Comcast Corporation** – Philadelphia, PA *Assistant Product Manager*
May 17 - Aug 17	**City Council of Philadelphia** – Philadelphia, PA *Asian Outreach Intern*
Step 16 - Mar 17	**Your Part-time Controller LLC** – Philadelphia, PA *Data Visualization Analyst*