

# Yanchen (Jeff) Jiang

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## Research Overview

My research lies at the intersection of computer science—specifically machine learning, deep learning, and generative AI—and economics, focusing on mechanism design, incentives, and decision-making. I employ computational frameworks to tackle established problems in economics and mechanism design, deriving novel insights and solutions in unexplored settings. Additionally, I integrate considerations of incentives, human behavior, game theory, and multi-agent interactions into large language models (LLMs) and generative AI, to enhance their applicability in complex economic environments.

**Research Interests:** Computational Mechanism Design, Large Language Models and Generative AI, Machine Learning, Deep Learning.

## Education

<b>Ph.D.</b> Computer Science 2022-2027 (expected)	<b>Harvard University</b> Advisors: Professor David C. Parkes and Professor Yiling Chen
<b>S.M.</b> Computer Science 2024	<b>Harvard University</b> Advisors: Professor David C. Parkes and Professor Yiling Chen
<b>A.B.</b> 2022	<b>Harvard University</b> Major: Computer Science and Mathematics; Minor: Statistics Thesis: <i>Learning to Sell Information</i> Highest Honors in Computer Science and Mathematics, <i>cum laude</i> GPA: 3.89/4.00

## Publications and Working Papers

(\* indicates equal contribution,  $\alpha$ - $\beta$  indicates alphabetical author order.)

### Conference Papers

**C2** Tonghan Wang\*, Yanchen Jiang\*, David C. Parkes. [GemNet: Menu-Based, Strategy-Proof Multi-Bidder Auctions Through Deep Learning](#). *The Twenty-Fifth ACM Conference on Economics and Computation (EC '24)*, Received **Exemplary Paper Award** for the AI track, presented at the Best EC '24 papers plenary session.

**C1** Sai Srivatsa Ravindranath\*, Yanchen Jiang\*, David C. Parkes. [Data Market Design through Deep Learning](#). *Advances in Neural Information Processing Systems 36 (NeurIPS 2023)*.

### *Workshop and Exhibition papers*

**W2** ( $\alpha$ - $\beta$ ) Constantinos Daskalakis, Ian Gemp, Yanchen Jiang, Renato Paes Leme, Christos Papadimitriou, Georgios Piliouras. [Charting the Shapes of Stories with Game Theory](#). *NeurIPS Creative AI track*, to appear.

**W1** Anand Shah\*, Kehang Zhu\*, Yanchen Jiang, Kerem Dayi, Jeffery Wang, John J. Horton, David C. Parkes. [Evidence from the Synthetic Laboratory: Language Models as Auction Participants](#). *EC'24 contributed poster session; NeurIPS 2024 Workshop on Behavioral Machine Learning*, to appear.

### *Preprint and Working papers in submission*

**P1** Tonghan Wang\*, Heng Dong\*, Yanchen Jiang, David C. Parkes, Milind Tambe. [On Diffusion Models for Multi-Agent Partial Observability: Shared Attractors, Error Bounds, and Composite Flow](#). *In submission*.

## Talks and Presentations

**GemNet: Menu-Based, Strategy-Proof Multi-Bidder Auctions Through Deep Learning**

*The Twenty-Fifth ACM Conference on Economics and Computation (EC'24)* New Haven, CT

**Best EC '24 papers plenary session** (Short Presentation)

**Main Conference** (Long Talk) July, 2024

*The Econometric Society 2024 ESIF Economics and AI+ML Meeting* Ithaca, NY

**Mechanism Design session** (*Session Chair*, Long Talk) August, 2024

*Harvard EconCS seminar*

Long Talk Nov, 2024

### **Data Market Design through Deep Learning**

*2023 Conference on Neural Information Processing Systems (NeurIPS 2023)* New Orleans, LA

**Main Conference** (Poster Session Presentation) Dec, 2023

*The Econometric Society 2024 ESIF Economics and AI+ML Meeting* Ithaca, NY

**Pricing in Markets session** (Long Talk) August, 2024

## Teaching

**CS136 (Economics and Computation)** Fall, 2023

*Head Teaching Assistant, Harvard University*

**CS136 (Economics and Computation)** Fall, 2021

*Teaching Assistant, Harvard University*

## Professional Service

*Conferences reviewing activities*

NeurIPS (2024), ICLR (2025), AISTATS (2025)