Sai Srivatsa Ravindranath

CONTACT INFORMATION

Harvard University
5.427, Science and Engineering Campus, Allston, MA

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INTERESTS

Machine Learning
Deep Learning, Reinforcement Learning, LLMs and GenAI

Economics and Computation
Multi-agent systems, Market Design, Game Theory, Algorithmic Economics

EDUCATION

Harvard University (July 2020 - Present)
Ph.D candidate in Computer Science
Advisor: Prof. David Parkes

Indian Institute of Technology, Kharagpur
B. Tech (with Honors) in EE, Minor in CS

WORK EXPERIENCE

Google Research (July 2024 - Feb 2025)
Student Researcher, Algorithms and Optimization
LLMs and Mechanism Design

Google Research (June 2023 - Jan 2024)
Student Researcher, Market Algorithms
Auctions and Deep Reinforcement Learning

Microsoft Research (2016 - 2017)
Research Fellow, Machine Learning and Optimization
Large-scale Multi-label learning and Recommender Systems

JOURNAL ARTICLES

$^{\alpha}$ *denotes alphabetical ordering of authors*

Automated Mechanism Design: A Survey
MJ. Curry, Z. Fan, Y. Jiang, SS. Ravindranath, T. Wang, DC. Parkes
SIGecom Exchange, 2025
Paper: https://www.sigecom.org/exchanges/volume_22/2/CURRY.pdf

Optimal Auctions through Deep Learning: Advances in Differential Economics$^{\alpha}$
P. Dutting, Z. Feng, H. Narasimhan, DC. Parkes, SS. Ravindranath.
- Journal of the ACM (JACM), September 2023
  DOI: https://dl.acm.org/doi/10.1145/3630749
- Communications of the ACM, Volume 64 (8), August 2021
  DOI: https://dl.acm.org/doi/10.1145/3470442

PREPRINTS

Framing and Signaling: An LLM-Based Approach to Information Design
S. Hossain, T. Lin, P. Duetting, RP. Leme, H. Xu, S. Zuo, SS. Ravindranath
Under Submission, 2025

Strategic Foundation Models
D. Goktas, A. Greenwald, T. Osogami,. . ., SS. Ravindranath et. al.
Position Paper, 2025

Deep Reinforcement Learning for Sequential Combinatorial Auctions
SS. Ravindranath, Z. Feng, D. Wang, M. Zaheer, A. Mehta, DC. Parkes
ArXiv: https://arxiv.org/abs/2407.08022

CONFERENCE & WORKSHOP PAPERS

Data Market Design through Deep Learning
SS. Ravindranath*, Y. Jiang*, DC. Parkes
Thirty-Seventh Conference on Neural Information Processing Systems (NeurIPS 2023)
ArXiv: https://arxiv.org/pdf/2310.20096.pdf

Deep Learning for Two-Sided Matching
SS. Ravindranath, Z. Feng, S. Li, J. Ma, SD. Kominers, DC. Parkes
Sixth International Workshop on Matching Under Preferences (MATCH-UP 2022)
ArXiv: https://arxiv.org/pdf/2107.03427.pdf

From Predictions to Decisions: Using Lookahead Regularization
N. Rosenfeld, S. Hilgard, SS. Ravindranath, DC. Parkes
Thirty-Fourth Conference on Neural Information Processing Systems (NeurIPS 2020)
ArXiv: https://arxiv.org/pdf/2006.11638.pdf

Optimal Auctions through Deep Learning$^{\alpha}$
P. Dutting, Z. Feng, H. Narasimhan, DC. Parkes, SS. Ravindranath.
Thirty-Sixth International Conference on Machine Learning (ICML 2019)
ArXiv: https://arxiv.org/pdf/1706.03459.pdf

Salient Object Detection via Objectness Measure
SS. Ravindranath, RV. Babu
Twenty-Second International Conference on Image Processing (ICIP 2015)
ArXiv: https://arxiv.org/pdf/1506.07363.pdf

Learning Objective functions for Improved Image retrieval
SS. Ravindranath, M. Gygli, LV. Gool
MediaEval Workshops, 2015.

Book Chapters

Machine Learning for Matching Markets$^{\alpha}$
Z. Feng, DC. Parkes, SS. Ravindranath.
In F. Echenique N. Immorlica and V. Vazirani, editors
Online matching theory and market design. Cambridge University Press, 2022.

Machine Learning for Optimal Economic Design$^{\alpha}$
P. Dutting, Z. Feng, N. Golowich, H. Narasimhan, DC. Parkes, SS. Ravindranath.
In JF Laslier, H. Moulin, MR. Sanver, WS. Zwicker, editors,
The Future of Economic Design. Springer, 2019

Teaching

CS 136: Economics and Computation (Teaching Fellow)
Harvard University, Fall 2021

Advising

A.B Thesis in Applied Math/Computer Science co-advised with Prof. David Parkes.
Dominik Bohnet Zurcher (Harvard → Oxford)
- Pick Me: Reducing Wastefulness in the RSD Mechanism

Jeff (Yanchen) Jiang (Harvard → Harvard)
- Learning to Sell Information

Christopher En (Harvard → Columbia)
- Introduction to Auction Theory

Scholarships, Achievements

Inspire Fellowship for Higher Education
Program by Dept. of Science and Technology, Govt. of India

Kishore Vaigyanik Protsahan Yojna Fellowship (KVPY)
Awarded to top 250 students in India by Dept. of Science and Technology, Govt. of India

Certificate of Merit in:

- Indian National Mathematics Olympiad (INMO)
- National Standard Examinations in Chemistry (NSEC).
- National Standard Examinations in Physics (NSEP).

National Talent Search Scholarship (NTSE)
Awarded to top 1000 high school students in India by NCERT

Professional Services

Conference Reviewing
NeurIPS (2021 - Present), ICML (2023 - Present), ICLR (2023 - Present)

Journal Reviewing
Mathematics of Operations Research

Workshop Reviewing
AAAI 2025 Workshop on Markets, Incentives, and Gen AI
ICLR 2022 Workshop on Gamification and Multiagent Solutions