Yingkai Li

Contact Information

Northwestern University
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Evanston, IL 60201

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Research Interests

Algorithmic game theory, mechanism design, microeconomic theory, online algorithms

Education

Northwestern University, Evanston, IL

Ph.D., Computer Science — Expected: May 2023
Advisor: Jason D. Hartline

Stony Brook University, Stony Brook, NY

M.S., Computer Science — May 2018

Shanghai Jiaotong University, Shanghai, China

B.S., Major: Computer Science, Minor: Robotics (IEEE honor class) — June 2015

Research Experience

Summer Intern — Jun 2020 to Sep 2020
Microsoft Research New England Lab
Mentor: Brendan Lucier, Nicole Immorlica

Research Assistant — Sep 2016 to Dec 2017
Department of Computer Science,
Stony Brook University
Supervisor: Jing Chen

Visiting Student — May to Jun 2017, 2018
School of Information Management and Engineering,
Shanghai University of Finance and Economics
Host: Pinyan Lu

Awards

Best Poster Award, EC 2020 — 2020
- Optimization of Scoring Rules.
  with Jason Hartline, Liren Shan and Yifan Wu

Special CS Department Chair Fellowship, Stony Brook University — 2015

Journal Publications

1. Efficient Approximations for the Online Dispersion Problem.
   with Jing Chen and Bo Li, SICOMP 2019

Conference Publications

1. Benchmark Design and Prior-independent Optimization.
   with Jason Hartline and Aleck Johnsen, FOCS 2020
2. Multinomial Logit Bandit with Low Switching Cost.
   with Kefan Dong, Qin Zhang and Yuan Zhou, ICML 2020
3. Fair Resource Sharing and Dorm Assignments.
   with Bo Li, AAMAS 2020
4. Approximately Maximizing the Broker's Profit in a Two-sided Market.
   with Jing Chen and Bo Li, IJCAI 2019

5. Optimal Auctions vs. Anonymous Pricing: Beyond Linear Utility.
   with Yiding Feng and Jason Hartline, EC 2019
6. Nearly Minimax-Optimal Regret for Linearly Parameterized Bandits.
   with Yining Wang and Yuan Zhou, COLT 2019
7. Revenue Maximization with Imprecise Distribution.
   with Pinyan Lu and Haoran Ye, AAMAS 2019
8. Information Elicitation for Bayesian Auctions.
   with Jing Chen and Bo Li, SAGT 2018
9. Dynamic Fair Division Problem with General Valuations.
   with Bo Li and Wenyang Li, IJCAI 2018
10. Bayesian Auctions with Efficient Queries.
    with Jing Chen, Bo Li and Pinyan Lu, ICALP 2018 (Brief Announcement)
11. Efficient Approximations for the Online Dispersion Problem.
    with Jing Chen and Bo Li, ICALP 2017

Working Papers

1. Equilibrium Behaviors in Reputation Games.
   with Harry Pei
2. Optimization of Scoring Rules.
   with Jason Hartline, Liren Shan and Yifan Wu
3. Simple Mechanisms for Non-linear Agents.
   with Yiding Feng and Jason Hartline
4. Tight Regret Bounds for Infinite-armed Linear Contextual Bandits.
   with Yining Wang and Yuan Zhou
5. Stochastic Linear Optimization with Adversarial Corruption.
   with Edmund Y. Lou and Liren Shan

Work in Progress

1. Welfare Analysis with Secondary Markets.
   with Moshe Babaioff, Nicole Immorlica and Brendan Lucier
2. Simple Mechanisms for Competing Principals.
   with Yannai Gonczarowski, Nicole Immorlica and Brendan Lucier
3. Misspecified Beliefs about Time Lags.
   with Harry Pei
4. Approximate Optimality of Monotone Persuasion.
   with Bo Li and Xiaowei Wu
5. Non-revelation Mechanisms for Sample Based Pricing.
   with Yiding Feng and Jason Hartline

Presentations

Multinomial Logit Bandit with Low Switching Cost.
- International Conference on Machine Learning — July 2020

Optimal Auctions vs. Anonymous Pricing: Beyond Linear Utility.
- Conference on Economics and Computation — June 2019

Nearly Minimax-Optimal Regret for Linearly Parameterized Bandits.
- Conference on Learning Theory — June 2019

Efficient Approximations for the Online Dispersion Problem.
- International Colloquium on Automata, Languages, and Programming — Aug 2017
- China Theory Week — Aug 2017

From Bayesian to Crowdsourced Bayesian Auctions.
- International Conference on Game Theory — Jul 2016

Teaching Experience

Teaching Assistant - Northwestern University

COMP_SCI 396 - Online Markets — Spring 2020
Instructor: Jason Hartline

COMP_SCI 336 - Design & Analysis of Algorithms — Fall 2019
Instructor: Jason Hartline

COMP_SCI 212 - Mathematical Foundations of Computer Science — Spring 2019
Instructor: Aravindan Vijayaraghavan

Teaching Assistant - Stony Brook University

CSE 215 - Foundations of Computer Science — Fall 2015, Spring 2016
Instructor: Himanshu Gupta; Paul Fodor

CSE 114 - Computer Science I — Spring 2016
Instructor: Paul Fodor

CSE 540 - Theory of Computation — Fall 2016
Instructor: Jing Chen