Yingkai Li

Contact Information

Computer Science, Yale University
17 Hillhouse Ave, Room 330
New Haven, CT 06511

https://yingkai-li.github.io/homepage
yingkai.li@yale.edu
CV - newest version

Research Interests

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

I'm seeking academic positions in Economics/Business School/Computer Science.

Employment

Postdoc Associates, Cowles Foundation for Research in Economics and Department of Computer Science, Yale Univerisity — 2022 - 2024

Education

Northwestern University, Evanston, IL, USA — June 2022

Ph.D., Computer Science
Advisor: Jason D. Hartline

Stony Brook University, Stony Brook, NY, USA — May 2018

M.S., Computer Science

Shanghai Jiaotong University, Shanghai, China — June 2015

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

Research Experience

Research Intern — Jun to Aug 2020, 2021
Microsoft Research New England Lab and New York Lab

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

Awards

Northwestern Terminal Year Fellowship — 2021

Working Papers

1. Optimal Scoring for Dynamic Information Acquisition.
   with Jonathan Libgober
2. Managing Persuasion Robustly: The Optimality of Quota Rules.
   with Dirk Bergemann and Tan Gan
3. Optimal Screening of Manipulative Agents via Contests.
   with Xiaoyun Qiu
4. Simple Mechanisms for Agents with Non-linear Utilities.
   with Yiding Feng and Jason Hartline
5. Optimal Mechanism Design with Endogenous Principal Learning.
   with Daniel Clark
6. Scale-robust Auctions.
   with Jason Hartline and Aleck Johnsen
7. Test Design without Commitment.
   with Boli Xu

8. Incentivizing Participation in Clinical Trials.
   with Alex Slivkins
9. Misspecified Beliefs about Time Lags.
   with Harry Pei

Journal Publications

1. Your College Dorm and Dormmates: Fair Resource Sharing with Externalities.
   with Jiarui Gan and Bo Li, Journal of Artificial Intelligence Research 2023
2. Nearly Minimax-Optimal Regret for Linearly Parameterized Bandits.
   with Yining Wang and Yuan Zhou, Transactions on Information Theory 2023
3. Bayesian Auctions with Efficient Queries.
   with Jing Chen, Bo Li and Pinyan Lu, Artificial Intelligence 2022
4. Equilibrium Behaviors in Repeated Games.
   with Harry Pei, Journal of Economic Theory 2021
5. Efficient Approximations for the Online Dispersion Problem.
   with Jing Chen and Bo Li, SIAM Journal on Computing 2019

Conference Publications

1. Revenue Maximization for Buyers with Costly Participation.
   with Yannai Gonczarowski, Nicole Immorlica and Brendan Lucier, SODA[1] 2024
2. Optimal Scoring Rules for Multi-dimensional Effort.
   with Jason Hartline, Liren Shan and Yifan Wu, COLT[2] 2023
3. Bayesian Analysis of Linear Contracts.
   with Tal Alon, Paul Dütting and Inbal Talgam-Cohen, EC[3] 2023
4. Making Auctions Robust to Aftermarkets.
   with Moshe Babaioff, Nicole Immorlica and Brendan Lucier, ITCS[4] 2023
5. Budget Pacing in Repeated Auctions: Regret and Efficiency without Convergence.
   with Jason Gaitonde, Bar Light, Brendan Lucier and Alex Slivkins, ITCS 2023
6. Simple Mechanisms for Non-linear Agents.
   with Yiding Feng and Jason Hartline, SODA 2023
7. Selling Data to an Agent with Endogenous Information. EC 2022
8. Optimization of Scoring Rules.
   with Jason Hartline, Liren Shan and Yifan Wu, EC 2022
9. Almost Proportional Allocations for Indivisible Chores.
   with Bo Li and Xiaowei Wu, WebConf[5] 2022

[1] ACM-SIAM Symposium on Discrete Algorithms
[2] Conference on Learning Theory
[3] ACM Conference on Economics and Computation
[4] Innovations in Theoretical Computer Science
[5] The Web Conference

10. Revelation Gap for Pricing from Samples.
    with Yiding Feng and Jason Hartline, STOC[6] 2021

11. Tight Regret Bounds for Infinite-armed Linear Contextual Bandits.
    with Yining Wang, Xi Chen and Yuan Zhou, AISTATS[7] 2021

12. Benchmark Design and Prior-independent Optimization.
    with Jason Hartline and Aleck Johnsen, FOCS[8] 2020

13. Multinomial Logit Bandit with Low Switching Cost.
    with Kefan Dong, Qin Zhang and Yuan Zhou, ICML[9] 2020

14. Fair Resource Sharing and Dorm Assignments.
    with Bo Li, AAMAS[10] 2020

15. Approximately Maximizing the Broker's Profit in a Two-sided Market.
    with Jing Chen and Bo Li, IJCAI[11] 2019

16. Optimal Auctions vs. Anonymous Pricing: Beyond Linear Utility.
    with Yiding Feng and Jason Hartline, EC 2019

17. Nearly Minimax-Optimal Regret for Linearly Parameterized Bandits.
    with Yining Wang and Yuan Zhou, COLT 2019

18. Revenue Maximization with Imprecise Distribution.
    with Pinyan Lu and Haoran Ye, AAMAS 2019

19. Information Elicitation for Bayesian Auctions.
    with Jing Chen and Bo Li, SAGT[12] 2018

20. Dynamic Fair Division Problem with General Valuations.
    with Bo Li and Wenyang Li, IJCAI 2018

21. Bayesian Auctions with Efficient Queries (Brief Announcement).
    with Jing Chen, Bo Li and Pinyan Lu, ICALP[13] 2018

22. Efficient Approximations for the Online Dispersion Problem.
    with Jing Chen and Bo Li, ICALP 2017

---

[6] ACM Symposium on Theory of Computing
[7] International Conference on Artificial Intelligence and Statistics
[8] IEEE Symposium on Foundations of Computer Science
[9] International Conference on Machine Learning
[10] International Conference on Autonomous Agents and Multiagent Systems
[11] International Joint Conferences on Artificial Intelligence
[12] International Symposium on Algorithmic Game Theory
[13] EATCS International Colloquium on Automata, Languages and Programming

Academic Service

Program Committee

- WINE[14] 2023, EC 2023, WebConf 2023, WINE 2022

Journal Reviewer

- American Economic Review: Insight, Journal of Economic Theory, Journal of the ACM, SIAM Journal on Computing, Games and Economic Behavior, Mathematics of Operations Research, Transactions on Information Theory, Transactions on Economics and Computation

Conference Reviewer

- STOC, SODA, EC, ICALP, ICML, ITCS, KDD, AISTATS, ESA, WebConf, WINE, COCOA

Teaching Experience

Teaching Assistant - Northwestern University

COMP_SCI 396 - Online Markets	Spring 2020
COMP_SCI 336 - Design & Analysis of Algorithms	Fall 2019
COMP_SCI 212 - Mathematical Foundations of Computer Science	Spring 2019

Teaching Assistant - Stony Brook University

CSE 215 - Foundations of Computer Science	Fall 2015, Spring 2016
CSE 114 - Computer Science I	Spring 2016
CSE 540 - Theory of Computation	Fall 2016

[14] Conference on Web and Internet Economics