## Yingkai Li


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| Contact Information | AS2 05-21<br>1 Arts Link, Singapore 117568 | yk.li@nus.edu.sg<br>https://yingkai-li.github.io<br>Last updated: Sep 2025 |


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|---|---|
| Research Interests | mechanism design, information design, microeconomic theory, algorithmic game theory |
| Employment | Assistant Professor (Presidential Young Professor) in Economics, National University of Singapore — 2024 - |
| | Postdoc Associates, Cowles Foundation for Research in Economics and Department of Computer Science, Yale University — 2022 - 2024 |
| | Research Intern, Microsoft Research — Jun to Aug 2020, 2021 |
| Education | Northwestern University, Evanston, IL, USA — June 2022<br>Ph.D., Computer Science<br>Advisor: Jason D. Hartline |
| | Stony Brook University, Stony Brook, NY, USA — May 2018<br>M.S., Computer Science |
| | Shanghai Jiaotong University, Shanghai, China — June 2015<br>B.S., Computer Science |
| Awards | Northwestern Terminal Year Fellowship — 2021 |

Working Papers

1. Managing Persuasion Robustly: The Optimality of Quota Rules.
   *with Dirk Bergemann and Tan Gan*
   revise and resubmit at **Journal of Economic Theory**
2. Mechanism Design under Costly Signaling: the Value of Non-Coordination.
   *with Xiaoyun Qiu*
   revise and resubmit at **Theoretical Economics**
3. Budget Pacing in Repeated Auctions: Regret and Efficiency without Convergence.
   *with Jason Gaitonde, Bar Light, Brendan Lucier and Alex Slivkins*
   major revision at **Operations Research**
4. Information Disclosure Makes Simple Mechanisms Competitive.
   *with Yang Cai and Jinzhao Wu*
5. Information Acquisition Towards Unanimous Consent.
   *with Boli Xu*
6. Incentivizing Forecasters to Learn: Summarized vs. Unrestricted Advice.
   *with Jonathan Libgober*
7. Simple Mechanisms for Agents with Non-linear Utilities.
   *with Yiding Feng and Jason Hartline*

8. Mechanism Design with Endogenous Principal Learning.
   *with Daniel Clark*
9. Fair Contracts.
   *with Matteo Castiglioni and Junjie Chen*
10. Scale-robust Auctions.
    *with Jason Hartline and Aleck Johnsen*
11. Dynamics and Contracts for an Agent with Misspecified Beliefs.
    *with Argyris Oikonomou*
12. Exploration and Incentivizing Participation in Randomized Trials.
    *with Alex Slivkins*
13. Misspecified Beliefs about Time Lags.
    *with Harry Pei*

## Journal Publications

1. Information Elicitation Mechanisms for Bayesian Auctions.
   *with Jing Chen and Bo Li*
   **Autonomous Agents and Multi-Agent Systems** 2025
2. Nearly Minimax-Optimal Regret for Linearly Parameterized Bandits.
   *with Yining Wang and Yuan Zhou*
   **Transactions on Information Theory** 2024
3. Your College Dorm and Dormmates: Fair Resource Sharing with Externalities.
   *with Jiarui Gan and Bo Li*
   **Journal of Artificial Intelligence Research** 2023
4. Bayesian Auctions with Efficient Queries.
   *with Jing Chen, Bo Li and Pinyan Lu*
   **Artificial Intelligence** 2022
5. Equilibrium Behaviors in Repeated Games.
   *with Harry Pei*
   **Journal of Economic Theory** 2021
6. Efficient Approximations for the Online Dispersion Problem.
   *with Jing Chen and Bo Li*
   **SIAM Journal on Computing** 2019

## Conference Publications

1. Multi-Project Contracts.
   *with Tal Alon, Matteo Castiglioni, Junjie Chen, Tomer Ezra and Inbal Talgam-Cohen,* EC 2025
2. Competition Complexity in Multi-item Auctions: Beyond VCG and Regularity.
   *with Hedyeh Beyhaghi, Linda Cai, Yiding Feng and Matthew Weinberg,* EC 2025
3. Algorithmic Information Disclosure in Optimal Auctions.
   *with Yang Cai and Jinzhao Wu,* EC 2024
4. Optimal Scoring for Dynamic Information Acquisition.
   *with Jonathan Libgober,* EC 2024
5. Revenue Maximization for Buyers with Costly Participation.
   *with Yannai Gonczarowski, Nicole Immorlica and Brendan Lucier,* SODA[1] 2024
6. Optimal Scoring Rules for Multi-dimensional Effort.
   *with Jason Hartline, Liren Shan and Yifan Wu,* COLT[2] 2023
7. Bayesian Analysis of Linear Contracts.
   *with Tal Alon, Paul Dütting and Inbal Talgam-Cohen,* EC[3] 2023
8. Making Auctions Robust to Aftermarkets.
   *with Moshe Babaioff, Nicole Immorlica and Brendan Lucier,* ITCS[4] 2023
9. Budget Pacing in Repeated Auctions: Regret and Efficiency without Convergence.
   *with Jason Gaitonde, Bar Light, Brendan Lucier and Alex Slivkins,* ITCS 2023
10. Simple Mechanisms for Non-linear Agents.
    *with Yiding Feng and Jason Hartline,* SODA 2023
11. Selling Data to an Agent with Endogenous Information. EC 2022
12. Optimization of Scoring Rules.
    *with Jason Hartline, Liren Shan and Yifan Wu,* EC 2022
13. Almost Proportional Allocations for Indivisible Chores.
    *with Bo Li and Xiaowei Wu,* WebConf[5] 2022
14. Revelation Gap for Pricing from Samples.
    *with Yiding Feng and Jason Hartline,* STOC[6] 2021
15. Tight Regret Bounds for Infinite-armed Linear Contextual Bandits.
    *with Yining Wang, Xi Chen and Yuan Zhou,* AISTATS[7] 2021
16. Benchmark Design and Prior-independent Optimization.
    *with Jason Hartline and Aleck Johnsen,* FOCS[8] 2020

[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
[6] ACM Symposium on Theory of Computing
[7] International Conference on Artificial Intelligence and Statistics
[8] IEEE Symposium on Foundations of Computer Science

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

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

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

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

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

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

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

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

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

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

## Academic Service

Workflow Chair: EC 2024

Senior Program Committee

- WINE[14] 2025

Program Committee

- EC 2025, WINE 2024, EAAMO 2024[15], EC 2024, WINE 2023, EC 2023, WebConf 2023, WINE 2022

Journal Reviewer

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

Conference Reviewer

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

[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
[14] Conference on Web and Internet Economics
[15] ACM Conference on Equity and Access in Algorithms, Mechanisms, and Optimization

## Current Students

- Zeyu Wang (PhD)
- Junjie Chen (Postdoc)
- Yiyao Zhu (Postdoc)

## Former Students

- Naman Agrawal (Undergrad), then Predoc at NUS.
- Jiao Hanyang (Undergrad), then Master at NUS.

## Teaching Experience

Instructor - National University of Singapore

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|---|---|
| EC4501/EC4501HM Economics and Computation | Spring 2025 |
| EC5881/EC5881R - Topics in Microeconomics | Fall 2024 |

Teaching Assistant - Northwestern University

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|---|---|
| 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

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