

# BO PENG (彭博)

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## Education

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### Shanghai University of Finance and Economics

Sep. 2022 – Jun. 2026 (expected)

*Ph.D. of Computer Science*

*Shanghai, China*

- Institute for Theoretical Computer Science, Director: Pinyan Lu
- Supervisor: Zhihao Gavin Tang

### Academy of Mathematics and Systems Science, Chinese Academy of Sciences

Sep. 2017 – July. 2020

*M.Sc. in Mathematics*

*Beijing, China*

- Institute of Mathematics
- Supervisor: Youde Wang

### Tongji University

Sep. 2013 – July. 2017

*B.Sc. in Mathematics*

*Shanghai, China*

- Honors Class, School of Mathematical Sciences
- Rank: 2/42

## Research Interests

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My research lies at the intersection of theoretical computer science and algorithmic game theory, and I am particularly interested in designing optimal algorithms and policy frameworks for microeconomics-based problems with uncertain inputs. My uncertainty models are inspired from different areas such as online algorithms, algorithmic game theory, online learning, robust optimization, and learning in games. Especially, I focus on prophet inequalities, contract design, and two-sided market.

## Publications

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The authors are listed in alphabetical order in theoretical computer science.

- [1] **Contextual Search in Principal-Agent Games: The Curse of Degeneracy**  
Yiding Feng, Mengfan Ma, **Bo Peng**, Zongqi Wan  
The 37th ACM-SIAM Symposium on Discrete Algorithms; (**SODA 2026**)
- [2] **Revisiting Ranking for Online Bipartite Matching with Random Arrivals: the Primal-Dual Analysis**  
**Bo Peng**, Zhihao Gavin Tang  
The 26th ACM Conference on Economics and Computation; (**EC 2025**)
- [3] **Optimal Robust Contract Design**  
**Bo Peng**, Zhihao Gavin Tang  
The 25th ACM Conference on Economics and Computation; (**EC 2024**)
- [4] **On the Last-iterate Convergence in Time-varying Zero-sum Games: Extra Gradient Succeeds where Optimism Fails**  
Yi Feng, Hu Fu, Qun Hu, Ping Li, Ioannis Panageas, **Bo Peng**, Xiao Wang  
The 37th Annual Conference on Neural Information Processing Systems; (**NeurIPS 2023**)
- [5] **Order Selection Prophet Inequality: From Threshold Optimization to Arrival Time Design**  
**Bo Peng**, Zhihao Gavin Tang  
The 63rd IEEE Symposium on Foundations of Computer Science; (**FOCS 2022**)

## Working Papers

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### (Alphabetical order)

- [W1] **Randomization and the Robustness of Linear Contracts**  
Ashwin Kambhampati, **Bo Peng**, Zhihao Gavin Tang, Juuso Toikka, Rakesh V. Vohra (In submission)
- [W2] **Searching for Optimal Prices in Two-Sided Markets**  
Yiding Feng, Mengfan Ma, **Bo Peng**, Zongqi Wan
- [W3] **A Riemannian Framework for Online Learning over Probability Measure Spaces**  
Xiaohui Bei, Yi Feng, **Bo Peng**
- [W4] **Improved Lower Bound for Online Graphic Matroid Partitioning**  
Ping Li, **Bo Peng**, Zhihao Gavin Tang (In submission)

## Research Experiences

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### Nanyang Technological University

May. 2025 – Jan. 2026

*Visiting Student*

*Singapore*

- School of Physical and Mathematical Sciences
- Supervisor: Xiaohui Bei

### Shanghai University of Finance and Economics

Sep. 2021 – Jun. 2022

*Research Assistant*

*Shanghai, China*

- Institute for Theoretical Computer Science, Director: Pinyan Lu
- Supervisor: Zhihao Gavin Tang

## Professional Services

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### Conference Reviewer

SODA 2025, EC 2023, COCOON 2025

### Journal Reviewer

SIAM Journal on Computing, Theoretical Computer Science, Journal of Combinatorial Optimization

## Teaching

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### Teaching Assistant

- **Advanced Algorithm**, 2022 Autumn, Shanghai University of Finance and Economics
- **Mathematical Analysis**, 2022 Autumn, 2023 Autumn, 2024 Autumn, Shanghai University of Finance and Economics

## Technical Skills

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**Programming Languages:** Python, Matlab, L<sup>A</sup>T<sub>E</sub>X

## Awards

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- National Scholarship (for Ph.D. students), Shanghai University of Finance and Economics, 2024
- Outstanding Paper Award in CCF National Conference on Theoretical Computer Science, 2024
- National Scholarship (for Ph.D. students), Shanghai University of Finance and Economics, 2023
- Merit Student of University of Chinese Academy of Sciences, 2018
- Outstanding Graduate of Tongji University, 2017
- Outstanding Undergraduate Thesis of Tongji University, 2017
- National Scholarship (for undergraduate students), Tongji University, 2016