Fang Kong (孔芳)

Email: kongf@sustech.edu.cn
Homepage: https://fangkongx.github.io
Research Interests: Online learning (particularly multi-armed bandits) and reinforcement learning

Position

Department of Statistics and Data Science,
Southern University of Science and Technology (SUStech), Shenzhen, China
Assistant Professor 07/2024-present

Education

Shanghai Jiao Tong University (SJTU), Shanghai, China 09/2020-06/2024
PhD in Computer Science
Supervisor: Prof. Shuai Li

Shandong University (SDU), Jinan, China 09/2016-06/2020
Bachelor's Degree in Software Engineering (Rank 1/318)

Publications (* denotes equal contribution)

1. **Fang Kong**, Zilong Wang, Shuai Li, "Improved Analysis for Bandit Learning in Matching Markets", Accepted at NeurIPS 2024.
2. **Fang Kong**, Penglei Zhao, Shichao Han, Yong Wang, Shuai Li, "Sequential Optimum Test with Multi-armed Bandits for Online Experimentation", Proceedings of the 33rd ACM International Conference on Information and Knowledge Management (CIKM, Applied Research Paper Track), 2024.
3. Yu Xia*, **Fang Kong***, Tong Yu, Liya Guo, Ryan A. Rossi, Sungchul Kim, Shuai Li, "Convergence-Aware Online Model Selection with Time-Increasing Bandits", The Web Conference (WWW), 2024.
4. **Fang Kong**, Shuai Li, "Improved Bandits in Many-to-one Matching Markets with Incentive Compatibility", Proceedings of the 38th Annual AAAI Conference on Artificial Intelligence (AAAI), 2024.
5. **Fang Kong***, Xiangcheng Zhang*, Baoxiang Wang, Shuai Li, "Improved Regret Bounds for Linear Adversarial MDPs via Linear Optimization", Transactions on Machine Learning Research (TMLR), 2024.
6. **Fang Kong**, Canzhe Zhao, Shuai Li, "Best-of-three-worlds Analysis for Linear Bandits with Follow-the-regularized-leader Algorithm", Proceedings of the 36th Conference on Learning Theory (COLT), 2023. (The First COLT Publication at SJTU)
7. **Fang Kong**, Jize Xie, Baoxiang Wang, Tao Yao, Shuai Li. "Online Influence Maximization under Decreasing Cascade Model", Proceedings of the 22nd International Conference on

Autonomous Agents and Multiagent Systems (AAMAS), 2023.

8. Yichi Zhou, **Fang Kong**, Shuai Li, “Stochastic No-Regret Learning for General Games with Variance Reduction”, International Conference on Learning Representations (ICLR), 2023.
9. **Fang Kong**, Shuai Li, “Player-optimal Stable Regret for Bandit Learning in Matching Markets”, Proceedings of the 2023 Annual ACM-SIAM Symposium on Discrete Algorithms (SODA). 2023.
10. **Fang Kong**, Yichi Zhou, Shuai Li, “Simultaneously Learning Stochastic and Adversarial Bandits with General Graph Feedback”, International Conference on Machine Learning (ICML), 2022.
11. **Fang Kong**, Junming Yin, Shuai Li, “Thompson Sampling for Bandit Learning in Matching Markets”, International Joint Conference on Artificial Intelligence (IJCAI), 2022.
12. **Fang Kong**, Yueran Yang, Wei Chen, Shuai Li, “The Hardness Analysis of Thompson Sampling for Combinatorial Semi-bandits with Greedy Oracle”, Proceedings of the Conference on Neural Information Processing Systems (NeurIPS), 2021.
13. **Fang Kong**, Yueran Yang, Wei Chen, Shuai Li, “Combinatorial Online Learning based on Optimizing Feedbacks (in Chinese)”, Big Data Research, 2021.
14. Shuai Li, **Fang Kong**, Kejie Tang, Qizhi Li, Wei Chen, “Online Influence Maximization under Linear Threshold Model”, Proceedings of the Conference on Neural Information Processing Systems (NeurIPS), 2020.
15. **Fang Kong**, Qizhi Li, Shuai Li, “A Survey on Online Influence Maximization” (in Chinese), Computer Science, 2020.

Tutorials & Invited Talks

“Reducing Exploration Cost and Risk in Online Learning: From Single Agent to Multi-agent Systems”
Invited Talk at the CCIR Youth Forum, October 2024, Wuhan, China

"Bandit Learning in Matching Markets"
Invited Talk at RLChina, October 2024, Guangzhou, China
Invited Talk at the CCF Theoretical Computer Science Doctoral Forum, June 2024, Changchun, China

"Bandit Learning in Mechanism Design: Matching Markets and Beyond"
Tutorial at AAMAS, May 2024, Aucland, New Zealand

“Best-of-three-worlds Analysis for Linear Bandits with Follow-the-regularized-leader Algorithm”
Invited Talk at the IJTCS-FAW Female Forum, August 2023, Macau, China

Internships and Research Experiences

WXG, Tencent 07/2022-07/2024
As a member of the Tencent Rhino-Bird Research Elite Program

The Chinese University of Hong Kong 02/2023-08/2023
Visiting student of Prof. John C.S. Lui

Computational Learning Theory Group, Microsoft Research Asia (MSRA) 12/2021-05/2022

Mentor: Dr. Yichi Zhou

Alibaba DAMO Academy 06/2021-08/2021
Mentor: Dr. Xue Wang and Dr. Tao Yao

Awards

1. Outstanding Graduates of Shanghai, 2024
2. Baidu Scholarship (only 10 recipients worldwide), 2024
3. National Scholarship (for Ph.D. students), from the ministry of Education of China, 2023, 2022 (only 0.2% each year)
4. AAMAS Student Scholarship, 2023
5. Award of Excellence in Stars of Tomorrow Internship Program, Microsoft Research Asia, 2022
6. Outstanding Graduates of Shandong Province (3%), 2020
7. Honors Bachelor of Shandong University (<5%), 2020
8. Outstanding Undergraduate Thesis of Shandong University (2%), 2020
9. National Scholarship (for undergraduate students), from the ministry of Education of China, 2018,2017 (only 0.2% each year)

Professional Services

Conference Reviewer for

International Conference on Learning Representations (ICLR) 2025
Conference on Neural Information Processing Systems (NeurIPS) 2024-2021
International Conference on Machine Learning (ICML) 2023-2022
Algorithmic Learning Theory (ALT) 2025
The Web Conference (WWW) 2025-2024

Journal Reviewer for

IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI)
Transactions on Machine Learning Research (TMLR)
IEEE Journal on Selected Areas in Communications (IEEE JSAC)

Teaching

STA303 Artificial Intelligence (Undergraduate), SUSTech Fall 2024

Teaching Assistants for

AI3601 Reinforcement Learning (Undergraduate), SJTU, Spring 2023
CS3317 Artificial Intelligence (Undergraduate), SJTU, Fall 2022
CS445 Combinatorics (Undergraduate), SJTU Fall 2021
CS410 Artificial Intelligence (Undergraduate), SJTU Fall 2020