

## EDUCATION

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**University of Virginia** Charlottesville, US  
Ph.D. in Computer Science, Co-advised by Dr. Hongning Wang and Dr. Haifeng Xu 2019–Current  
– Research Interest: Online Learning in multi-agent environments, Bandit Algorithm, Recommender System

**Peking University** Beijing, China  
M.S. in Applied and Computational Mathematics, Advisor: Dr. Tiejun Li 2013–2016  
B.S. in Mathematics, double major in Philosophy 2009–2013

## WORKING EXPERIENCE

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**Google Research** Mountain View, CA, US  
Student Researcher at Foresight Manager: Dr. Craig Boutilier, Host: Dr. Chih-wei Hsu 2022.5-2022.9  
– Work on Bayesian preference elicitation in interactive recommender systems using Concept Activation Vectors.

**ByteDance** Remote in US  
Research Intern at AML Lab Manager: Dr. Chong Wang, Host: Dr. Taiqing Wang 2021.5-2021.8  
– Enhance the recommendation diversity and mitigate the Echo chamber effect of TikTok via collaborative Thompson sampling approach and gradient-based Determinantal Point Processes.

**Alibaba Group** Beijing, China  
Algorithm Engineer at Taobao Manager: Dr. Xin Li 2017.8-2019.7  
– Design and maintain content recommendation system for Taobao main page, mainly focusing on deep-learning based match/ranking solution.

## PUBLICATIONS

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1. **F. Yao**, C. Li, D. Nekipelov, H. Wang, and H. Xu, “How Bad is Top- $K$  Recommendation under Competing Content Creators?”, *in submission*.
2. Y. Jia, **F. Yao**, and H. Wang, “Users Should Not Pay For Fairness: Strategic Incentives for Fair Exposure in Rankings”, *in submission*.
3. E. Biyik, **F. Yao**, A. Haig, Y. Chow, C. Hsu, M. Ghavamzadeh and C. Boutilier, “Preference Elicitation with Soft Attributes in Interactive Recommendation”, *in submission*.
4. **F. Yao**, C. Li, D. Nekipelov, H. Wang, and H. Xu, “Learning from a Learning User for Optimal Recommendations”, *ICML*, 2022.
5. \*J. Wu, \*H. Xu, and \***F. Yao**, “Multi-Agent Learning for Iterative Dominance Elimination: Formal Barriers and New Algorithms”, *COLT*, 2022.
6. **F. Yao**, C. Li, D. Nekipelov, H. Wang, and H. Xu, “Learning the optimal recommendation from revealed preferences”, *AAAI*, 2022.
7. **F. Yao**, R. Cai, and H. Wang, “Reversible action design for combinatorial optimization with reinforcement learning”, *AAAI-ML4OR*, 2022

8. H. Shen, **F. Yao**, T. Sen, G. Moreira, and A. Sarker, “Query-Efficient and Imperceptible Attacks on Multivariate Time Series DNN Models”, IFIP, 2022.
9. \*R. Sundaram, \*A. Vullikanti, \*H. Xu, and \***F. Yao**, “Pac-learning for strategic classification”, ICML, **long oral (3%)**, 2021.
10. A. Sarker, **F. Yao**, H. Shen, H. Zhao, H. Zhu, H. Lone, L. Barnes, B. Campbell, and M. Rosen, “Deep learning based prediction towards designing a smart building assistant system”, *Proceedings of 2020 IEEE 17th International Conference on Mobile Ad Hoc and Sensor Systems (MASS)*, 2020.
11. **F. Yao**, F. Li, and T. Li, “Mean field study of a propagation-turnover lattice model for the dynamics of histone marking”, *Science China Physics, Mechanics & Astronomy*, vol. 60, no. 2, p. 028 711, 2017.

\*Equal contribution; authors listed in alphabetical order.

## TEACHING

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- **Teaching Assistant** at University of Virginia Spring 2023  
*Introduction to Algorithmic Economics*
- **Teaching Assistant** at University of Virginia Fall 2022  
*Introduction to Reinforcement Learning*
- **Teaching Assistant** at University of Virginia Spring 2021  
*Learning and Games*
- **Teaching Assistant** at University of Virginia Fall 2020  
*Algorithms*
- **Teaching Assistant** at Peking University Spring 2016  
*Linear Algebra*

## AWARDS

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- ICML Travel Award. 2022
- Graduate Teaching Award of the CS Department of UVA. 2020
- Outstanding Graduate Student Award of Peking University. 2016
- Bronze Medalist in Team Contest, Honorable Prize in Individual Contest of Applied and Computational Mathematics, Shing-Tung Yau College Student Mathematics Contests (Ranked top 6 in team nation-wide). 2012
- Gold Medalist in Chinese Mathematics Olympics (Ranked top 40 individually nation-wide). 2009

## SERVICES

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- Reviewer IJCAI 2022,2023, ICML 2021,2022, KDD 2021, AAAI 2021,2022, GameSec 2022