

Yifan Feng

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ACADEMIC EMPLOYMENT

National University of Singapore

Assistant Professor, Department of Analytics & Operations, NUS Business School 2020 - Present
Affiliated Faculty, Institute of Operations Research and Analytics 2020 - Present

EDUCATION

University of Chicago

PhD in Management Science/Operations Management (Advisor: René Caldentey) 2014 - 2020

University of Minnesota

BS in Mathematics, *summa cum laude*, graduated with high distinction 2011 - 2014

RESEARCH

RESEARCH INTERESTS

Applications: information collection and aggregation, platform operations, market analytics

Methodologies: stochastic modeling, sequential decision making under uncertainty, experimental design, learning in presence of strategic behavior, (random) graph theory

RESEARCH PAPER OUTLINE

(The labels that follow, e.g., J1, refer to the papers below.)

Information collection and preference learning: J1, W2, W3, W5

Learning in presence of strategic manipulation: J2, W4, P1, P2

E-commerce platform operations and demand fulfillment: W1, P3, P4

PUBLICATIONS

- J1. Yifan Feng, René Caldentey and Christopher T. Ryan. Robust learning of consumer preferences. *Operations Research*. 70(2):918-962. (Previous title: “Learning customer preferences from personalized assortments”)
- J2. John R. Birge, Yifan Feng, N. Bora Keskin and Adam Schultz. Dynamic learning and market making in spread betting markets with informed bettors. *Operations Research*. 69(6):1746-1766.
- Preliminary version in *Proceedings of the 2019 ACM Conference on Economics and Computation (EC 2019)*.
 - Featured in *Chicago Booth Review*

WORKING PAPERS

([†] represents PhD student I advise or collaborate with. [‡] represents my industry collaborator.)

- W1. Yifan Feng, René Caldentey, Linwei Xin, Yuan Zhong, Bing Wang[‡], Haoyuan Hu[†]. Designing sparse graphs for stochastic matching with an application to middle-mile transportation management. Under *major revision* at *Management Science*.
- Preliminary version selected into *MSOM Supply Chain SIG 2022 conference*
 - Covered by *Chicago Booth Review*
- W2. Yifan Feng, Yuxuan Tang[†]. On a Mallows-type model for (ranked) choices.
- Preliminary version accepted in the *2022 Conference on Neural Information Processing Systems (NeurIPS 2022)*
- W3. Junwen Yang[†], Yifan Feng. Nested Elimination: A simple algorithm for best-item identification from choice-based feedback.
- W4. Qinzhen Li[†], Hongfan Chen, Yifan Feng. Learning to rank under strategic manipulation in small and large markets.
- W5. Jingying Ding[†], Yifan Feng, Ying Rong. Myopic Quantal Response policy: Thompson sampling meets behavioral economics.
- W6. Shengyu Cao[†], Simai He, Zizhuo Wang, Yifan Feng. Optimal partition for a multi-type queueing system.

SELECTED WORK IN PROGRESS

- P1. Information aggregation, market making, and strategic manipulation (with J. Birge and B. Keskin)
- P2. Learning to lend under adverse selection (with J. Keppo)
- P3. Understanding compensation elasticity of agents in a logistics platform (With J. Keppo and S. Hu)
- P4. The benefits of un-pooling logistic resources: An empirical study (with R. Caldenteu, L. Xin, and DJ. Zhang)

TEACHING

NATIONAL UNIVERSITY OF SINGAPORE

Instructor

- DBA5109: Quantitative Risk Management (MS in Bus. Analytics) AY 20/21, 21/22, 22/23
- DBA3713: Analytics for Risk Management (BBA spec. Bus. Analytics) AY 21/22, 22/23

INDUSTRY COLLABORATION

- **E-commerce platform and logistics solutions:** Cainiao Network (Alibaba Group), Pickup
- **Semiconductor manufacturing:** Kulicke & Soffa
- **Online content platform:** Kwai (Kuaishou)

PRESENTATIONS

UNIVERSITIES

- 2023
 - Singapore Management University, OM seminar (scheduled)
 - Hong Kong University, Innovation and Information Management seminar (scheduled)
 - Chinese University of Hong Kong, Shenzhen, SDS seminar (scheduled)
- 2021:
 - Nanyang Business School, IT&OM virtual seminar
 - City of University of Hong Kong, MS virtual seminar
 - Zhejiang University, DS&EM virtual seminar
 - NUS Business School, BizWIP virtual brown bag seminar
- 2020:
 - University of Southern California, Marshall DSO seminar
 - Hong Kong University of Science and Technology, Joint IE/OM Seminar
 - The Chinese University of Hong Kong, SEEM seminar
 - Nanjing University, MS&E virtual seminar
- 2019:
 - The University of Texas at Austin, McCombs DS seminar
 - Boston College, Carroll OM seminar
 - NUS Business School, DAO seminar
 - Chinese University of Hong Kong, Shenzhen, iDDA seminar
 - Baruch College, OM seminar
 - Tongji University, AIB seminar
- 2018: University of Chicago, Booth OM brown bag seminar

SELECTED CONFERENCES AND WORKSHOPS

- INFORMS (*INFORMS Annual Meeting*): 2014, 2016-21
- MSOM (*INFORMS MSOM Conference*): 2017
 - Supply chain SIG Meeting 2022
 - iFORM SIG Meeting 2019
- RM&P (*INFORMS Revenue Management and Pricing Section Conference*): 2018, 2019, 2022
- MIW (*Marketplace Innovation Workshop*): 2019
- EC (*ACM Conference on Economics and Computing*): 2019
- EC-Learning (*ACM EC Workshop on Learning in Presence of Strategic Behavior*): 2019
- POMS (*POMS Annual Conference*): 2017, 2019, 2021

OTHER INVITED PRESENTATIONS

- Guest speaker, S3 (NUS-CUHK-SHUFU) Optimization Day 2022 2022
- Speaker, Alibaba (Cainiao Network) 2018, 2019, 2021
- Speaker, ZJU International Summer School for Machine Learning and Data-driven Decision Management 2021
- Guest speaker, UIUC PhD course: *Stochastic Models* 2020

HONORS AND AWARDS

GRANTS

(Total support: ~S\$1.4 million or ~US\$1.03 million)

- PI, Ministry of Education Academic Research Fund Tier 1, S\$180,000 2022-2025
 - Title: “*Efficient and robust information acquisition for platforms and markets*”
- PI, NUS Business School Start-Up Grant, S\$90,000 2021-2025
 - Title: “*Information aggregation and acquisition for platform operations*”
- PI, NUS-Pickupp Research Collaboration Grant, S\$150,800 2022-2024
 - Title: “*Data driven pricing and facility network optimization for Pickupp’s two-sided logistics platform*”
- Co-PI, AI Singapore 100 Experiments and Kulicke & Soffa Research Grants, S\$908,740 2022-2025
 - Title: “*Smart manufacturing through predictive process monitoring using machine learning*”
 - PI: Jussi Keppo
- Team member, Alibaba Research Grant, US\$60,000 2020-2021
 - Title: “*Building a flexible logistics network in the era of ‘New Retail’*”
 - PIs: René Caldentey, Linwei Xin, Yuan Zhong
- ACM-EC Student Travel Grant, EC '19 2019
- Undergraduate Research Opportunities Program, Supervised by Zizhuo Wang, Univ. of Minnesota 2013

ACADEMIC AND RESEARCH AWARDS

- Honorable mention in POMS-HK Best Student Paper Competition POMS-HK, 2019
- Booth School of Business Ph.D. Fellowship University of Chicago, 2014-2019
- Ella Thorp Math Scholarship University of Minnesota, 2012-2014

MEDIA COVERAGE

1. Pickupp and NUS collaborate to develop solutions aimed at revolutionising the logistics industry. [*Media OutReach*] [*Yahoo! News*] [*Technode Global*] [*NEWS AGENCY by NewsServices.com*], July 21 2022. [*Disruptive Tech Asia*], July 22 2022 [*Riauone (in Indonesian)*], July 24 2022.
2. How to create a better supply chain. [*Chicago Booth Review*], February 16, 2022.
3. How bookies can outwit smart bettors. [*Chicago Booth Review*], June 10, 2019.

SERVICE

REVIEWING SERVICE

- Journal: *Operation Research, Management Science, Mathematical Programming, Manufacturing & Service Operations Management, Service Science, Operation Research Letters*
- Conference: *ACM Conference on Economics and Computation (EC), Supply Chain Management SIG MSOM Annual Conference*

CONFERENCE ORGANIZATION

- Workshop co-chair (with René Caldentey, Linwei Xin and Yuan Zhong): UChicago Workshop on E-Commerce and Logistics 2022
- Session chair: INFORMS 2021; Session co-chair (with René Caldentey): INFORMS, 2016, 2019; RM&P, 2018

ADVISING

- PhD Student
 - Qinzhen Li
 - Yuxuan Tang (as main advisor, co-advised with Xiaobo Li)
 - Wu Hao (as main advisor, co-advised with Jussi Keppo)
 - Junwen Yang (as co-advisor, main advisor: Vincent Tan)
 - Huijun Zhu (as co-advisor, main advisor: Joel Goh)
 - Yuda Ho (as co-advisor, main advisor: Jussi Keppo)
- Postdoc
 - Khye Loong Anthony Yew (as co-advisor, main advisor: Jussi Keppo)

SERVICE TO NUS

- Committee
 - NUS DAO PhD admission committee Committee member, AY 21-22
 - NUS DAO faculty recruiting committee Committee member, AY 21-22
 - NUS IORA joint departmental seminar series Co-organizer, AY 21-22, 22-23
- Examiner
 - PhD thesis proposal/defense examiner (thesis committee member): Qiuyu Zhu, Hailong Sun, Ruiting Zuo, Ek Hong Lim, Shuo Wang, Yangge Xiao
 - PhD summer paper examiner: Ruijiu Mao
 - Undergraduate honours thesis examiner: Elysia Ziyi Tan