Yuan Yuan

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EMPLOYMENT HISTORY

University of California, Davis   **Davis, CA, USA**
Assistant Professor in Business Analytics, Graduate School of Management   *Starting July 2024*

Purdue University   **West Lafayette, IN, USA**
Assistant Professor of Management, Daniels School of Business   *August 2021 - June 2024*

Microsoft Corp.   **Redmond, WA, USA**
Visiting Research Scientist (part-time hired through BrickRed Systems)   *August 2022 - February 2024*
○ Working on Large Language Models, Social & Organizational Networks, Causal Inference, Experimental Design

Core Data Science Group, Facebook (Meta) Research   **Menlo Park, CA, USA**
Research Intern   *May 2020 - August 2020*
○ Worked on causal inference, experiments, and networks

EDUCATION

Massachusetts Institute of Technology   **Cambridge, MA, USA**
PhD, Institute for Data, Systems, and Society   *Sept 2016 - August 2021*
○ PhD in Social, Engineering, and System
○ Interdisciplinary PhD in *Statistics*

Tsinghua University   **Beijing, China**
BEng, Computer Science; BA, Economics (2nd Major)   *Sept 2012 - June 2016*
○ Graduation with honors

PAPERS

Journal Articles

[5] Marie Charpignon*, **Yuan Yuan***, Dehao Zhang* (*equal contribution), Fereshteh Amini, Longqi Yang, Sonia Jaffe, Siddharth Suri, *"Navigating the new normal: Examining co-attendance in a hybrid work environment"*, *Proceedings of the National Academy of Sciences*, 2023.

[4] **Yuan Yuan**, Tracy Xiao Liu, Chenhao Tan, Qian Chen, Alex 'Sandy' Pentland, and Jie Tang, "*Gift contagion in online groups: Evidence from virtual red packets,*" *Management Science*, 2023.

[3] **Yuan Yuan**, Eaman Jahani, Shengjia Zhao, Yong-Yeol Ahn, and Alex Pentland "*Implications of covid-19 vaccination heterogeneity in mobility networks*", *Communications Physics (Nature Portfolio)*, 2023.

[2] Ding Lyu, **Yuan Yuan** (corr author), Lin Wang, Xiaofan Wang, Alex Pentland, "*Investigating and modeling the dynamics of long ties*", *Communications Physics (Nature Portfolio)*, 2022.

[1] **Yuan Yuan**, Ahmad Alabdulkareem, and Alex 'Sandy' Pentland. "*An interpretable approach for social network formation among heterogeneous agents.*" *Nature Communications*, 2018.

Refereed Conference Proceedings in Computer Science

[5] David Gamba, Yulin Yu, **Yuan Yuan**, Grant Schoenebeck, and Daniel Romero, "*Exit Ripple Effects: Understanding the Disruption of Socialization Networks Following Employee Departures*", the Web Conference (WWW), 2024.

[4] Shan Huang*, Chen Wang*, **Yuan Yuan***, Jinglong Zhao* (equal contribution), Jingjing Zhang, "*Estimating effects of long term treatments*", *Economics and Computation* (EC'2023).

[3] Yongkang Guo, **Yuan Yuan**, Jinshan Zhang, Yuqing Kong, Zhihua Zhou, Zheng Cai, "Near-optimal experimental design under the budget constraint in Online Platforms", the Web Conference (WWW), 2023.

[2] **Yuan Yuan**, Kristen Altenburger, and Farshad Kooti, "*Causal network motifs: Identifying heterogeneous spillover effects in A/B tests*", the Web Conference (WWW), 2021.

[1] **Yuan Yuan**, Sihong Xie, Chun-Ta Lu, Jie Tang, and Philip S. Yu, "*Interpretable and effective opinion spam detection via temporal pattern mining across websites.*" *IEEE International Conference on Big Data*, 2016.

Other Publications

[1] **Yuan Yuan** and Tracy Xiao Liu, "*Spillover effects in online field experiments: An annotated reading list.*" *ACM SIGecom Exchanges*, 2022.

Working Papers

[6] Yan Leng* and **Yuan Yuan***, "*Do LLM Agents Exhibit Social Behaviors?*" 2nd round major revision at *Information Systems Research.*

[5] **Yuan Yuan**, Christos Nicolaides, and Dean Eckles, "*Promoting physical activity through prosocial incentives on mobile platforms*", major revision at *Information Systems Research.*

[4] **Yuan Yuan** and Kristen Altenburger, "*A two-part machine learning approach to characterizing network interference in A/B testing*", minor revision at *Manufacturing & Service Operations Management* (preliminary version appeared at *WWW'21*).

[3] Shan Huang*, Chen Wang*, **Yuan Yuan***, Jinglong Zhao* (equal contribution), Jingjing Zhang, "*Estimating effects of long term treatments*", major revision at *Management Science* (forwarded from *EC'23*).

[2] **Yuan Yuan**, Mengting Wan, Brent Hecht, Jaime Teevan, Longqi Yang, "*Large-scale telemetry data reveal associations between intra-organizational networks and firm financial performance*", invited to resubmit at *Management Science.*

[1] Marios Papachristou and **Yuan Yuan**, "*Network Formation and Dynamics Among Multi-LLMs*", under review.

Work in Progress (Writing Stage)

[2] **Yuan Yuan**, "*Multicalibrated heterogeneous treatment effect estimation*".

[1] Shan Huang*, Yifan Yu*, **Yuan Yuan***, "*Strength of weak ties differs in private messaging versus broadcasting*".

* indicates equal contributions.

INVITED TALKS & LECTURES

[16] "*Social Networks and Causality: From long-range ties to long-term effect estimation*", invited talk, Meta Central Applied Science, August 2023.

[15] "*Network structures and dynamics: From to disease diffusion and intervention*", invited talk, Summer Institute in Computational Social Science, Beijing, July 2023.

[14] "*A two-part machine learning approach to characterizing network interference in A/B testing*", invited talk, University of Washington, March 2023.

[13] "*A two-part machine learning approach to characterizing network interference in A/B testing*", invited talk, Boston University, Sept 2022.

[12] "*Mobility network reveals the impact of spatial vaccination heterogeneity on COVID-19*", invited talk, MIT Connection Science, May 2022.

[11] "*Promoting physical activity through prosocial incentives on mobile platforms*", invited talk, Stanford University, May 2022.

[10] "*Promoting physical activity through prosocial incentives on mobile platforms*", invited talk, MIT IDE Annual Meeting, May 2022.

[9] "*Identifying Heterogeneous Spillover Effects in Networked Experiments*", invited talk, Conference on Web and Internet Economics, Dec 2021.

[8] "*Promoting physical activity through prosocial incentives on mobile platforms*", invited talk, MIT Center for Real Estate, Nov 2021.

[7] "*Machine Learning for Social Networks*", invited talk, SICSS Hong Kong, June 2021.

[6] "*Causal Inference on Social Networks*", invited talk, Microsoft Research, April 2021.

[5] "*Causal Network Motifs: Identifying Heterogeneous Spillover Effects in A/B Tests*", invited talk, Oxford Mathematical Institute, Nov 2020.

[4] "*Causal identifications in observational studies*", invited talk, Conference on Big Data and Social Computing, Aug 2020.

[3] "*Identifying gift contagion in online groups,* " guest lecturer for Behavioral Economics, Tsinghua University (remotely), Mar 2020.

[2] "*Predicting economic growth by social diversity,* " invited talk, International Conference on Social Computing, Aug 2019.

[1] "*Trading off between homophily and social exchange for social network formation,* " invited talk, Beijing Normal University, Jan 2019.

PROFESSIONAL SERVICES

Organizer: SICSS Beijing 2021, WINE Experimentation Workshop 2021.
Technical Program Committee: MIT Conference on Digital Experimentation, 2019-2023.
Program Committee:CIST 2022-23, WINE 2022-2023, WITS 2022
Session chair: CODE'2019-2021, IC2S2'2020, INFORMS 2022-23, CODE@MIT 2019-2021.
Reviewer: NSF Proposal, Journal of the American Statistical Association, Management Science, MIS Quarterly, Information Systems Research, Journal of Machine Learning Research, ACM Transactions on Knowledge Discovery from Data, IEEE Transactions on Big Data, Annual Meeting of the Association for Computational Linguistics (ACL), HBS Misinformation Review, IC2S2, WITS, CIST, WINE, ACIC, INFORMS, ACL

TEACHING EXPERIENCE

Analytics Experiential Project (new course)	*Purdue, 2023/2024 Spring*
Introduction to Management Information Systems	*Purdue, 2022/2024 Spring*
Doctoral Research Seminar: Topics in Social Networks (new course)	*Purdue, 2021 Fall*