Yuan Yuan

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EMPLOYMENT HISTORY

Purdue University   **West Lafayette, IN, USA**

Assistant Professor in Management Information Systems   *August 2021 - Present*

EDUCATION

Massachusetts Institute of Technology   **Cambridge, MA, USA**

PhD, Institute for Data, Systems, and Society   *Sept 2016 - August 2021*

- Interdisciplinary Ph.D. program between data science and social science
- Dual Ph.D. in *Statistics*

Tsinghua University   **Beijing, China**

BEng, Computer Science; BA, Economics (2nd Major)   *Sept 2012 - June 2016*

- Graduation with honors

RESEARCH INTERESTS

Social Networks: Use causal inference and machine learning to understand network dynamics, social and biological contagion, and prosocial behavior.

Online Experimentation: Explore statistics and machine learning methods that improve online experimentation.

PUBLICATIONS AND MANUSCRIPTS

[7] **Yuan Yuan**, Eaman Jahani, Shengjia Zhao, Yong-Yeol Ahn, and Alex Pentland "*Mobility network reveals the impact of spatial vaccination heterogeneity on COVID-19*", invited to submit to *Nature Human Behaviour*.

[6] **Yuan Yuan**, Christos Nicolaides, Alex Pentland, and Dean Eckles "*Promoting physical activity through prosocial incentives on mobile platforms*", under review at *Management Science*.

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

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

[3] **Yuan Yuan**, Kristen Altenburger, and Farshad Kooti, "*Causal Network Motifs: Identifying Heterogeneous Spillover Effects in A/B Tests*", the Web Conference (WWW), 2021.

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

[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.

INDUSTRY EXPERIENCE

Core Data Science Group, Facebook Research   **Menlo Park, CA, USA**

Research Intern   *May 2020 - August 2020*

- Employed causal inference and machine learning to understand how to promote social interactions and solidarity in online social networks.
- Explored methods for conducting causal inference on large-scale social networks.

INVITED TALKS & LECTURES

[8] "*Promoting physical activity through prosocial incentives on mobile platforms*", invited talk, 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.

CONFERENCE PRESENTATIONS

2021: WebConf, Informs, Informs Healthcare, CIST, WITS
2020: NetSci, IC2S2, CODE
2019: IC2S2, Informs
2018: NetSci-Econ, AFE, NetSci, IC2S2, CODE
2017-: BigData, CCS

PROFESSIONAL SERVICES

Organizer: SICSS Beijing 2021, WINE Experimentation Workshop 2021.
Technical Program Committee: MIT Conference on Digital Experimentation, 2019-2021.
Session chair: CODE'2019-2021, IC2S2'2020.

Reviewer: NSF Proposal, Management Science, MIS Quarterly, ACM Transactions on Knowledge Discovery from Data, IEEE Transactions on Big Data, Misinformation Review, IC2S2'20.

TEACHING EXPERIENCE

Doctoral Research Seminar: Topics in Social Networks   *2021 Fall*
Introduction to Management Information Systems   *2022 Spring*