Yuan Yuan

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EDUCATION

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

PhD, Institute for Data, Systems, and Society   *Sept 2016 - Present*
- An interdisciplinary Ph.D. program between data science and social science
- Thesis committee: Alex 'Sandy' Pentland (chair), Dean Eckles, and Sinan Aral

Tsinghua University   **Beijing, China**

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

RESEARCH INTERESTS

I research various types of human behaviors in **social networks**, such as **prosocial behavior**, **cooperation**, and **social contagion** by drawing upon **causal inference** and **machine learning** methods. I am broadly interested in **computational social science**, **data mining**, **digital platforms**.

PUBLICATIONS AND MANUSCRIPTS

[3] **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.*" Major Revision, *Management Science.*

[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.

WORKS IN PROGRESS

[3] **Yuan Yuan**, Christos Nicolaides, Dean Eckles, and Alex 'Sandy' Pentland, "*Who motivates more workouts: Friends or strangers?*"

[2] **Yuan Yuan**, Hesham Nawaz, Mohsen Mosleh, Margaret Ng, and Alex 'Sandy' Pentland, "*Testing indirect reciprocity heterogeneity using hyperrealistic photos produced by generative adversarial network.*"

[1] **Yuan Yuan**, and Alex 'Sandy' Pentland, "*Choosing the optimal clustering rule for graph cluster randomization.*"

WORK EXPERIENCE

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

Research Intern   *May 2020 - August 2020*

- Mentor: Dr. Farshad Kooti
- Employed causal inference and machine learning to understand how to promote interactions and solidarity in social networks.

INVITED TALKS & LECTURES

[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

[12] "*Who motivates more workouts: Friends or strangers?*", International Conference on Computational Social Science (IC2S2), Boston, July 2020.

[11] "*The contagion of online gift giving,*" INFORMS Annual Meeting, Seattle, Oct 2019.

[10] "*Does prosocial contagion increase inequality? A large-scale online field experiment,*" International Conference on Computational Social Science (IC2S2), Amsterdam, July 2019.

[9] "*A large-scale natural experiment of indirect reciprocity,*" Conference on Digital Experimentation (CODE), Boston, Oct 2018.

[8] "*A large-scale natural experiment of indirect reciprocity,*" Advances in Field Experiments (AFE), Boston, Oct 2018.

[7] "*Online red packets: A large-scale empirical study of gift giving on WeChat,*" International Conference on Computational Social Science (IC2S2), Evanston, July 2018.

[6] "*An interpretable approach for social network formation among heterogeneous agents,*" International Conference on Computational Social Science (IC2S2), Evanston, July 2018.

[5] "*Trade-off between social exchange and homophily in social network formation,*" International Conference on Network Science (NetSci), Paris, June 2018.

[4] "*A large-scale empirical study of gift giving on WeChat*," Annual Conference on Network Science and Economics (NetSci Econ), Nashville, Apr 2018.

[3] "*Trade-off between social exchange and homophily in social network formation*," Annual Conference on Network Science and Economics (NetSci Econ), Nashville, Apr 2018.

[2] "*Social network formation based on endowment exchange. and Social Representation*," Conference on Complex Systems (CCS), Cancún, Oct 2017.

[1] "*Interpretable and effective opinion spam detection via temporal pattern mining across websites*," IEEE International Conference on Big Data (BigData), Washington DC, Dec 2016.

PROFESSIONAL SERVICES

Organizer: Summer Institute in Computational Social Science, Beijing, 2020 (postponed)
Technical Program Committee: Conference on Digital Experimentation (CODE), Boston, 2019.
Session chair: CODE'2019, IC2S2'2020.
Reviewer: ACM Transactions on Knowledge Discovery from Data, Misinformation Review, CODE'19, IC2S2'20.
Mentorship: Hesham Nawaz (MIT undergraduate research intern).

MEDIA COVERAGE

[2] "*WeChat is running a natural experiment in human generosity*," MIT Technology Review, 2019.

[1] "*Model helps explain how social networks form*," PNAS Journal Club, 2018.

SELECTED AWARDS & GRANTS

Research Grant ($5,000) from Russel Sage Foundation (co-PI)	*2019*
Participant in Summer Institute in Computational Social Science, Princeton University	*2019*
Travel Grant for Annual Conference on Network Science and Economics	*2018*
College Graduate Excellence Award, Tsinghua University	*2016*
China Computer Federation Outstanding Undergraduate Award	*2015*
Chinese National Scholarship	*2014*