

# Yuan Yuan

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## EDUCATION

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**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

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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

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- [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

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- [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

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**Core Data Science Group, Facebook Research**

**Menlo Park, CA, USA**

*Research Intern*

*May 2020 - August 2020*

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

## INVITED TALKS & LECTURES

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- [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

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- [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

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**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

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- [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

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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