Yan Leng

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personal website

Employment

2020-present Assistant Professor in the Department of Information, Risk and Operations Management at the McCombs School of Business at The University of Texas at Austin

- Core member in the Machine Learning Laboratory at The University of Texas at Austin
- Research affiliate at the Misinformation & AI at The University of Texas at Austin
- Research affiliate at the MIT Media Lab

Education

Ph.D.
2017-2020
Massachusetts Institute of Technology (MIT), Cambridge, MA, USA
MIT Media Lab, Human Dynamics Group

Master of Science
2013-2016
Massachusetts Institute of Technology (MIT), Cambridge, MA, USA
Computer Science at Electrical Engineering and Computer Science Department

Master of Science
2013-2016
Massachusetts Institute of Technology (MIT), Cambridge, MA, USA
Transportation Engineering at Civil and Environmental Engineering Department

Journals

[1] Jahani*, E., Gallagher*, N., Merhout*, F., Cavalli*, N., Guilbeault*, D., **Leng***, **Y.**, & Bail*, C. A. (2022). An Online Experiment During the 2020 US–Iran Crisis Shows that Exposure to Common Enemies Can Increase Political Polarization. *Scientific Reports (2022)*. *All authors contribute equally. Random authorship order.

[2] **Yan Leng***, Dominiquo Santistevan*, and Alex Pentland. Understanding Collective Regularity in Human Mobility as a Familiar Stranger Phenomenon. *Scientific Reports* (2021). *Equal contribution.

[3] **Yan Leng**, Yujia Zhai, Shaojing Sun, Yifei Wu, Jordan Selzer, Sharon Strover, Anfan Chen, Hezhao Zhang, and Ying Ding Analysis of Misinformation During the COVID-19 Outbreak in China: Cultural, Social and Political Entanglements. *IEEE Transactions on Big Data* (2021).

[4] **Yan Leng**, Haris Koutsopolous, and Jinhua Zhao. Leveraging Individual and Collective Regularity to Profile and Segment User Locations from Mobile Phone Data. *ACM Transactions on Management Information Systems (TMIS)* (2021).

[5] Dhaval Adjodah, **Yan Leng**, Shi Kai Chong, P. M. Krafft, Esteban Moro, and Alex Pentland. Accuracy-Risk Trade-Off Due to Social Learning in Crowd-Sourced Financial Predictions. *Entropy* (2021).

[6] **Yan Leng**, Yehonatan Yella, Rodrigo Ruiz, and Alex Pentland. Contextual Centrality: Going Beyond Network Structure. *Scientific Reports* (2020).

[7] Xiaobing Liu, Xuedong Yan, Feng Liu, Rui Wang, and **Yan Leng**. A Trip-specific Model for Fuel Saving Estimation and Subsidy Policy Making of Carpooling Based on Empirical Data. *Applied Energy* (2019).

[8] Shaokuan Chen, **Yan Leng**, Baohua Mao, and Shuang Liu. Integrated Weight-based Multi-criteria Evaluation on Transfer in Large Transport Terminals: A Case Study of the Beijing South Railway Station. *Transportation Research Part A: Policy and Practice* (2014).

Conference proceedings

[1] Emanuele Rossi, Federico Monti, **Yan Leng**, Michael Bronstein and Xiaowen Dong. Learning to Infer Structures of Network Games. *International Conference on Machine Learning (ICML)*, 2022.

[2] **Yan Leng**, Xiaowen Dong, and Alex Pentland. Learning Quadratic Games on Networks. *International Conference on Machine Learning (ICML)*, 2020.

[3] **Yan Leng**, Martin Saveski, Alex Pentland, and Dean Eckles. Observational Causal Inference Using Network Information. *NeurIPS Graph Representation Learning Workshop*, 2019.

Revisions

[1] **Yan Leng**, Xiaowen Dong, Esteban Moro, and Alex Pentland. Long Range Social Influence in Phone Communication Network. Third-round major revision at *Information Systems Research.*

[2] **Yan Leng**, Tara Sowriraja and Alex Pentland. Measuring Social Influence Within and Across Multi-dimensional Homophilous Communities. Third-round major revision at *IEEE Transactions on Knowledge and Data Engineering*.

[3] Junyu Cao* and **Yan Leng***. Adaptive Acquisition Tree for Recommendations with Optimality Guarantees on Short-form Video Platforms. Second-round major revision at *Management Science*.

[4] **Yan Leng** and Drew Dimmery. Calibration of Heterogeneous Treatment Effects in Random Experiments. Second-round major revision at *Information Systems Research*.

[5] **Yan Leng**, Yijun Chen, Xiaowen Dong, Junfeng Wu, and Guodong Shi. Can Platforms Protect Customers' Social Interaction Structure When Behavioral Data is Public?. First-round major revision at *MIS Quarterly*.

[6] Junyu Cao* and **Yan Leng***. Network-enabled Sequential Data Acquisition for High-dimensional Recommender Systems. First-round reject & resubmit at *Management Science*.

* Equal contribution.

Working papers

[1] **Yan Leng** and Ashish Agarwal. Are Spatial Neighbors Complements or Substitutes? Discovering a Visits-based Local Market Structure. Submitted to *Management Science*.

[2] **Yan Leng**, Rodrigo Ruiz, and Xiao Liu. Interpretable Recommender System and Decision Support Using Geometric Deep Learning. Submitted to *Journal of Marketing Research*.

[3] Junyu Cao* and **Yan Leng***. Learning to Optimize Data Quality for Crowdsourcing Labor Markets: A Human-Algorithm-Collaborative Framework. Submitted to *Management Science*.

*Equal contribution.

Awards and honors

Feb 2022	National Science Foundation (NSF) CRII Award.
Nov 2022	Finalist for Meta People's Expectations & Experiences with Digital Privacy Request for Proposals.
Oct 2022	2022 INFORMS ISS Cluster Best Paper Award.
Dec 2021	Marketing Science Institute Grant Award.
June 2021	Second prize in INFORMS Revenue Management and Pricing Data-driven Challenge (2021).
May 2021	McCombs BBA Faculty Honor Roll (Teaching Award).
March 2021	UT-Austin McCombs Research Excellence Grant.
Sep 2018	Russel Sage Foundation Grant Award.
Nov 2016	MIT IDEAS Global Challenge Grant.
Nov 2016	MIT Sandbox Innovation Fund.
Aug 2016	Harvard Sustainability Grant.

Teaching

MIS304 Introduction to problem solving and programming (average rating 4.75/5).
- Won McCombs faculty teaching award.

Invited talks

2022 **Learning network structures from behavioral data** at *Stanford Digital Economy Lab*.

2022 **Learning to infer structures of network games** at *Deep Exploration of non-Euclidean Data with Geometric and Topological Representation Learning by Banff International Research Station*.

2021 **Interpretable recommender system with heterogeneous information: a geometric deep learning perspective** at *ICLR Geometrical and Topological Representation Learning workshop, University of Pittsburgh*.

2019, 2020, 2021 **Learning strategic interaction from individual actions: A game-theoretic approach** at the *Northwestern Institute on Complex Systems at Northwestern University, Machine Learning in Finance Workshop by Columbia University, Alan Turing Institute, University of Washington Data Science Seminar, Carnegie Mellon University*.

2020 **Analysis of misinformation during the COVID-19 outbreak in China: cultural, social and political entanglements** at the *IDeaS Center at Carnegie Mellon University, UT Austin Disinformation Group at the Good Systems*.

2019, 2020 **Collective behaviors on networks** at *C2Smart Center at New York University*, and *Summer Institute in Computational Social Science at Oxford*.

2019 **Observational causal inference with network information** at *Graph Exploitation Symposium by MIT Lincoln Lab*.

2018 **Social Bayesian decision-making** on the *52nd Conference on Information Sciences and Systems, 2018*.

Services

Organized IS events — Short talk session Chairs for WITS (2022), local chair for WITS (2021).

Organized CSS events — Summer Institute of Computational Social Science (Beijing, 2021), Computational Social Science for Impact (CSS4Impact) (2020), Summer Institute of Computational Social Science (Boston, 2019).

Referee for management venues — Management Science, Information Systems Research, MIS Quarterly, ACM Transactions on Management Information Systems, ICIS, CIST, HICSS, WITS, Informs Workshop on Data Science.

Referee for CS venues — NeurIPS, ICML, ICLR, AAAI, IEEE Transactions on Big Data, KDD Conference Workshop on Data-driven Humanitarian Mapping (2020,2021).

Interdisciplinary venues — Plos One, Scientific Reports.