
Education

Ph.D. Massachusetts Institute of Technology (MIT), Cambridge, MA, USA
2017-present **Human Dynamics Group** at Media Lab.
Advisor: Professor Alex Pentland
Area of study: Machine learning on social networks, social influence, Bayesian generative models for decision-making.

Master of Science Massachusetts Institute of Technology (MIT), Cambridge, MA, USA
2013-2016 **Computer Science** at Electrical Engineering and Computer Science Department
Thesis: Urban computing using Call Detail Records: mobility pattern mining, next-location prediction and location recommendation.
Advisors: Professor Alex Pentland and Larry Rudolph (Ph.D)

Master of Science Massachusetts Institute of Technology (MIT), Cambridge, MA, USA
2013-2016 **Transportation Engineering** at Civil and Environmental Engineering Department
Advisors: Professor Jinhua Zhao and Professor Haris N. Koutsopolous

Bachelor of Engineering Beijing (Northern) Jiaotong University, Beijing, China
2009 - 2013 **Transportation Engineering** at Traffic and Transportation Department
Computational Mathematics at School of Science

Research experiences

Sep 2015 - present **Graduate Research Assistant at Media Lab, MIT**
■ Perform large-scale behavioral data analytics and develop network-based machine learning methods for behavioral prediction and network inference.
■ Lead the collaborative research projects in Beijing and Andorra.

Sep 2013 - May 2015 **Graduate Research Assistant at Civil and Environmental Engineering, MIT**
■ Analyzed large-scale mobility data and developed methods to infer the commuting patterns.

Teaching

Fall 2016 Participated in the design and teaching in MAS.S61 Social Physics at MIT

Mentorship

June 2018 - present **Rodrigo Ruiz** Master of Engineering in Computer Science at MIT

Sep 2016 - present **Tossaporn Saengja** Undergraduate in Computer Science at MIT

Sep 2016 - May 2017 **Domoniquo Santistevan** Undergraduate in Computer Science at MIT

Sep 2016 - May 2017 **Anna Sinelnikova** Undergraduate in Computer Science at MIT

Awards & Honors

Sep 2018 Received \$7899 for the “*Reducing Belief Polarization*” project from Russel Sage Foundation.

June 2018 Awarded travel and participation grant by the Russel Sage Foundation to the Summer Institute in Computational Social Science at Duke University.

- Apr 2018 Awarded travel and participation grant by the National Science Foundation to the fourth annual conference on network science and economics at Vanderbilt University.
- Nov 2016 Received \$5000 from MIT IDEAS Global Challenge for the *ecotrack* project (aiming to track carbon footprints of individuals).
- Nov 2016 Received \$1000 MIT Sandbox Innovation Fund for the *ecotrack* project.
- Aug 2016 Received \$1000 Harvard Sustainability Grant for the *ecotrack* project.
- Jun 2013 Delivered the graduation speech representing 3500 graduates of Beijing Jiaotong University.
- 2010, 2011, 2012 Excellent academic award of Beijing Jiaotong University.
- Nov 2011 Delivered a speech representing 22K students on the 60 anniversary of Beijing Jiaotong University.

Papers

- [1] **Yan Leng**, Xiaowen Dong, and Alex Pentland. "*Learning Quadratic Game on Networks*". Submitted to Proceedings of the National Academy of Sciences.
- [2] **Yan Leng**, Xiaowen Dong, Esteban Moro, and Alex Pentland. "*The Rippling Effect of Social Influence via Phone Communication Network*". In *Complex Spreading Phenomena in Social Systems*, pp. 323-333. Springer, Cham, 2018.
- [3] **Yan Leng**, Xiaowen Dong, Dhaval Adjudah, Alex Pentland. "*Geometric Information Fusion for Mobile App Usage Prediction*". Under review in *Management Science*.
- [4] **Yan Leng**, Xiaowen Dong, Esteban Moro, and Alex Pentland. "*Beyond exposure: the paradoxical nature of social influence*". In preparation for submission to *Nature Human Behavior*.
- [5] **Yan Leng**, Tara Sowriraja, Alex Pentland. "*Measuring social influence within and across multi-dimensional homophilous communities*". In preparation for submission.
- [6] **Yan Leng**, Yehonatan Yella, Rodrigo Ruiz, Alex Pentland. "*Contextual centrality: going beyond network structure*". In preparation for submission.
- [7] **Yan Leng**, Haris Koutsopolous, Jinhua Zhao. "*Profiling presence patterns and segmenting user locations from cell phone data*". In preparation for submission.
- [8] Dhaval Adjudah, **Yan Leng**, Shikai Chong, Peter Krafft, Alex Pentland. *Social Bayesian Learning in the Wisdom of the Crowd*. International Conference on Computational Social Science, 2017.
- [9] Dhaval Adjudah, Dan Calacci, **Yan Leng**, Peter Krafft, Esteban Moro, Alex Pentland. "Improved Learning in Evolution Strategies via Sparser Inter-Agent Network Topologies". arXiv preprint arXiv:1711.11180. 2017.
- [10] Dhaval Adjudah, Shikai Chong, **Yan Leng**, Peter Krafft, alex Pentland. "Large-Scale Experiment on the Importance of Social Learning and Unimodality in the Wisdom of the Crowd ".arXiv preprint arXiv:1712.10284.2017.
- [11] **Yan Leng**, Larry Rudolph, Jinhua Zhao, Haris Koutsopolou and Alex Pentland. "*Synergistic data-driven travel demand management based on phone records*." Proceedings of the ACM SIGKDD International Workshop on Urban Computing. 2017.
- [12] **Yan Leng**, Alejandro Noriega, Ira Winder, Nina Lutz, Luis Alonso, and Alex Pentland. *Analysis of Tourism Dynamics and Special Events through Mobile Phone Metadata*. Proceedings of Data for Good Exchange (D4GX). New York, NY, 2016
- [13] **Yan Leng** (2016) *Urban computing using call detail records: mobility pattern mining, next-location prediction and location recommendation*. Massachusetts Institute of Technology. <http://hdl.handle.net/1721.1/104156>.
- [14] Shaokuan Chen, **Yan Leng**, Baohua Mao, and Shuang Liu (2014). *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*, 66, 13-26.

Presentations

- Nov 2018 Presented **Geometric information fusion for mobile app usage prediction** at *Conference on Information Systems and Technology (CIST 2018)*, Pheonix.
- June 2018 Presented **A Bayesian learning model for decision-making in social networks** at *International School and Conference on Network Science (NetSci, 2018)*.
- Apr 2018 Presented **A large-scale experiment and model of social influence in phone communication networks** *Fourth Annual Conference on Network Science and Economics*.
- Mar 2018 Presented **A Bayesian learning model for decision-making in social networks** at *Women in Data Science (WIDS) - Cambridge*.
- June 2018 Presented **Inferring mobile app preference via multi-view geometric information fusion** at *3rd Graph Signal Processing Workshop (GSP' 2018)*.
- June 2017 Invited talk on **The ripple effect: you are more influential than you think** at Beijing Normal University.
- June 2017 Presented **The ripple effect: you are more influential than you think** at *International School and Conference on Network Science (NetSci, 2017)*.
- Aug 2017 Presented **Synergistic data-driven travel demand management based on phone records**. at *The 6th International Workshop on Urban Computing (in conjunction with KDD' 17)*.
- Sep 2016 Presented **Managing travel demand: Location recommendation for system efficiency based on mobile phone data** at mobility section of *Data For Good Exchange Conference, 2016, New York*.
- Sep 2016 Presented **Analysis of tourism dynamics and special events through mobile phone metadata** at the lightning section of *Data For Good Exchange Conference, 2016, New York*.
- Aug 2016 Interviewed by *China Central Television (CCTV)* for the documentary "A Century With Cars II" about **Future urban mobility**.
- Feb 2016 Presented **Mobility and tourism analysis with call detail records** at *Andorra Telecom Big Data Online Seminar*.
- Aug 2012 Presented **Evaluation on transfer efficiency at integrated transport terminals through multi-level grey evaluation** at *The Eighth International Conference on Traffic & Transportation Studies*.

Additional Experiences

- July 2017 - present Project coordinator for the MIT-BNU collaboration project in Human Dynamics Group
- Sep 2016 - June 2017 Project coordinator for the MIT-Andorra collaboration project in Human Dynamics Group.
- Sep 2015 - Sep 2017 Data science lead for the *ecotrack* project, an entrepreneurship project aiming to track individual carbon footprints.