

Xinran He

Ph.D. Candidate

USC Viterbi School of Engineering
Los Angeles, CA 90089

<http://www-scf.usc.edu/~xinranhe/>

xinranhe@usc.edu

213-446-0185

Research Interests

My primary research interest lies in social network analysis and social media analysis. I am interested in both solving real-world problems in social networks with machine learning and data mining techniques and providing theoretical analysis of behaviors on social network with tools such as game theory. I am particularly interested in diffusion phenomena on social networks, including influence maximization, network inference and competitive diffusion.

Education

- 2012- ★ **Ph.D., Computer Science – University of Southern California**
 Advisor: Yan Liu and David Kempe.
- 2008-2012 ★ **B.S., Intelligence Science and Technology – Peking University**
 G.P.A.:3.74/4.0, Ranked 2/49; Specialization: Data Mining
- 2009-2012 ★ **B.S., Psychology (double major) – Peking University**

Publications

Conferences papers

- **Xinran He** and Yan Liu, *Not Enough Data? Joint Inferring Multiple Diffusion Networks via Network Generation Priors*, Proceedings of the 10th ACM International Conference on Web Search and Data Mining (WSDM), 2017.
- **Xinran He**, Ke Xu, David Kempe and Yan Liu, *Learning Influence Functions from Incomplete Observations*, Proceedings of the 28th Advances in Neural Information Processing Systems (NIPS), 2016.
- **Xinran He** and David Kempe, *Robust Influence Maximization*, Proceedings of the 22nd ACM SIGKDD international conference on Knowledge discovery and data mining (KDD), 2016.
- **Xinran He**, Theodoros Rekatsinas, James Foulds, Lise Getoor and Yan Liu, *HawkesTopic: A Joint Model for Network Inference and Topic Modeling from Text-Based Cascades*, Proceedings of the 32nd International Conference on Machine Learning (ICML), 2015.
- **Xinran He***, Dehua Cheng* and Yan Liu, *Model Selection for Topic Models via Spectral Decomposition*, Proceedings of the 18th International Conference on Artificial Intelligence and Statistics (AISTATS), 2015. (*Two authors contribute equally to this work)
- Xiaodong Chen, Guojie Song, **Xinran He** and Kunqing Xie, *On Influential Nodes Tracking in Dynamic Social Networks*, Proceedings of the 15th SIAM International Conference on Data Mining (SDM), 2015.
- **Xinran He**, Junfeng Pan, Ou Jin, Tianbing Xu, Bo Liu, Tao Xu, Yanxin Shi, Antoine Atallah, Ralf Herbrich, Stuart Bowers and Joaquin Quinonero Candela, *Practical Lessons from Predicting Clicks on Ads at Facebook*. Proceedings of the 8th International Workshop on Data Mining for Online Advertising (ADKDD), 2014.

- Rose Yu, **Xinran He** and Yan Liu, *GLAD: Group Anomaly Detection in Social Media Analysis*. Proceedings of the 20th ACM SIGKDD international conference on Knowledge discovery and data mining (KDD), 2014.
- **Xinran He** and David Kempe, *Price of Anarchy for the N-player Competitive Cascade Game with Submodular Activation Functions*. Proceedings of the 9th Conference on Web and Internet Economics (WINE), 2013.
- **Xinran He**, Guojie Song, Wei Chen, and Qingye Jiang, *Influence Blocking Maximization in Social Networks under the Competitive Linear Threshold Model*. Proceedings of the 12th SIAM International Conference on Data Mining (SDM), 2012.

Journal papers

- Guojie Song, Yuanhao Li, Xiaodong Cheng and **Xinran He**, *Influential Node Tracking on Dynamic Social Network: An Interchange Greedy Approach*, IEEE Transactions on Knowledge and Data Engineering (TKDE), 2016.
- Rose Yu, **Xinran He** and Yan Liu, *GLAD: Group Anomaly Detection in Social Media Analysis* (journal version), ACM Transactions on Knowledge Discovery in Data (TKDD), 2015.

Select Professional and Research Experience

- 2016.06 - 2016.08 ★ **Engineering Intern – Class-o-MATIC team, Google**
Explore attributes and regularization-based approaches to improve accuracy in few-shot image classification.
- 2015.06 - 2015.08 ★ **Engineering Intern – Sibyl team, Google**
Combine neural network and sparse linear model to improve large-scale CTR prediction.
- 2013.09 - 2014.01 ★ **Independent Contractor – Ads ranking team, Facebook**
Explore and optimize fundamental parameters with significant impact on the performance of the Facebook Ads ranking system.
- 2013.06 - 2013.08 ★ **Research Intern – Ads ranking team, Facebook**
Improve CTR prediction accuracy by implementing logistic regression with SGD.
- 2012.02 - 2012.05 ★ **Engineering Intern – Ads relevance team, Microsoft STCA**
Adopt Probase, a knowledge base, to generate features to improve accuracy in advertisement relevance ranking
- 2009.10 - 2012.06 ★ **Research Assistant – Key Laboratory of Machine Perception, Peking University**
Work on projects focusing on Influence Maximization and social network analysis.

Honors and Awards

- 2016 ★ **Student travel awards for KDD'16**
- 2015 ★ **NSF travel awards for ICML'15**
- 2014 ★ **NSF travel awards for KDD'14**
- 2014 ★ **Best poster for Technical Strength Award at USC Annual Research Day**
- 2013 ★ **Student Travel Fellowship for WINE'13**
- 2012 ★ **Meritorious Winner in 14th annual Interdisciplinary Contest in Modeling (ICM)**

- 2011 ★ Second Prize in Undergraduate Mathematical Contest in Modeling
- 2010 ★ Zhaoting Zhou Scholarship
- 2008, 2009 ★ Peking University Honorable and Excellent Student

Skills and Personal Information

- *Programming:* Solid programmer in Python, Matlab and C++. Also familiar with C# and Java.
- *Other:* Experienced with relational databases (MySQL, Oracle) and familiar with web development (HTML, PHP and JavaScript).