

Jian Gao

Personal Information

Birth DATE: May 28, 1989 ◇ GENDER: Male ◇ NATIONALITY: P.R. China
 Affiliation Macro Connections, MIT Media Lab, Massachusetts Institute of Technology (MIT)
 CompleX Lab, University of Electronic Science and Technology of China (UESTC)
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Education Background

2016–Present **Massachusetts Institute of Technology** Cambridge, USA
 Visiting Student in *Media Arts and Sciences*. Macro Connections, MIT Media Lab
 advisor: Prof. César A. Hidalgo
 2014–Present **University of Electronic Science and Technology of China** Chengdu, China
 PhD Student in *Computer Science*. CompleX Lab, Web Sciences Center
 advisor: Prof. Tao Zhou
 2012–2014 **University of Electronic Science and Technology of China** Chengdu, China
 Master Student in *Computer Science*. CompleX Lab, Web Sciences Center
 advisor: Prof. Tao Zhou
 2008–2012 **University of Electronic Science and Technology of China** Chengdu, China
 B.Sc in *Information and Computing Science*. School of Mathematical Sciences
 GPA: 88.6/100 (3.88/4)
 2005–2008 **Shangzhi (No. 1) High School** Harbin, China
High School Diploma

Research Interests

Network Sci Network Models, Vertex Similarity, Percolation Transition, Networked Spreading
 Inform Ret Recommender Systems, Bipartite Networks, Ranking Methods, Reputation Evaluation
 Data Anal Economic Complexity, Socio-economic Systems, Industrial Structure, Social Media

Selected Projects

2016–Present Revealing the Spatial Structure of Socio-economic Complex Systems UESTC & MIT
modeling and understanding the spatial structure of world trade networks
 2015–Present Quantify Local Industry Structure and Economic Complexity of China UESTC & BU
extract local economic structure from data covering 20 million companies of China
 2014–2015 Information Spreading and Percolation on Spatial Social Networks UESTC & SWJT
investigate how spatial organization affects information spreading via percolation theory
 2013–2014 User Reputation Evaluation and Robust Online Ranking Methods UESTC
evaluate online user reputation by considering their grouping behaviors in rating

Research Experience

2016–Present **Research Assistant**
 advisor: Prof. César A. Hidalgo. Macro Connections, MIT Media Lab MIT
 2016–2016 **Visiting Researcher**
 advisor: Prof. H. Eugene Stanley. Center for Polymer Studies, Department of Physics BU
 2014–2015 **Visiting Research Assistant**

2013–Present	advisor: Prof. Yanqing Hu. School of Mathematics, Southwest Jiaotong University	SWJT
	Research Assistant	
2012–2013	advisor: Prof. Tao Zhou. Web Sciences Center & Big Data Research Center	UESTC
	Research Assistant	
Fall 2014	advisor: Prof. Ming-Sheng Shang. Web Sciences Center	UESTC
	Research Intern	
	mentor: Dr. Jun-Lin Zhou. Hire Big Data (Chengdu) LTD.	Chengdu, China

Teaching Experience

Fall 2013	TA & Grader, Calculus I (undergraduate), School of Mathematical Sciences	UESTC
Fall 2012	TA, Mathematical Modeling (undergraduate), School of Mathematical Sciences	UESTC

Selected Funding

- [1] **Co-PI.** Performance and behavior trend predication of employees in the context of big data. NNSFC (No. 15CGL029), directed by Dr. Jia Yuan, RMB 200,000 May 2015–Present
- [2] **Investigator.** Interdisciplinary research of statistical physics and information science. NNSFC (No. 11222543), directed by Prof. Tao Zhou, RMB 1,000,000 Jun 2014–Dec 2015
- [3] **Investigator.** Study of information recommendation in dynamic evolution online system. NNSFC (No. 61370150), directed by Prof. Ming-Sheng Shang. RMB 750,000 Jan 2014–Dec 2014
- [4] **Investigator.** Percolation theory and cascading failures of coupled complex networks. NNSFC (No. 61203156), directed by Prof. Yanqing Hu, RMB 250,000 Jun 2013–Dec 2014

Selected Publications

Under Review

- [4] **Jian Gao[†]** and Tao Zhou. Evaluating user reputation in online rating systems via an iterative group-based ranking method. arXiv:1509.00594, 2015 (2nd review, *Physica A*).
- [5] Ling-Jiao Chen, Zi-Ke Zhang, Jin-Hu Liu, **Jian Gao[†]**, and Tao Zhou. A vertex similarity index for better personalized recommendation. arXiv:1510.02348, 2015 (2nd review, *Physica A*).

Peer-reviewed Papers

- [6] **Jian Gao[†]** and Tao Zhou. Big data reveal the status of economic development. *Journal of University of Electronic Science and Technology of China*, 45(4): 625-633, 2016.
- [7] Qing Wang, **Jian Gao**, Tao Zhou, Zheng Hu, and Hui Tian. Critical size of ego communication networks. *EPL (Europhysics Letters)*, 114(5): 58004, 2016.
- [8] Jia Yuan, Qian-Ming Zhang, **Jian Gao**, Linyan Zhang, Xue-Song Wan, Xiao-Jun Yu, and Tao Zhou. Promotion and resignation in employee networks. *Physica A*, 444: 442-446, 2016.
- [9] **Jian Gao**, Tao Zhou, and Yanqing Hu. Bootstrap percolation on spatial networks. *Scientific Reports*, 5: 14662, 2015.
- [10] **Jian Gao**, Yu-Wei Dong, Ming-Sheng Shang, Shi-Min Cai, and Tao Zhou. Group-based ranking method for online rating systems with spamming attacks. *EPL (Europhysics Letters)*, 110(2): 28003, 2015.
- [11] Linyan Zhang, **Jian Gao**, Xiang Hong, and Tao Zhou. Human resource management based on big data. *Big Data Research*, 1: 2015012, 2015
- [12] **Jian Gao**, Linyan Zhang, Qian-Ming Zhang, and Tao Zhou. Big data human resources: Performance analysis and promotion/resignation in employee networks. *Social Physics: Social Governance*, Beijing: Science Press, Ch. 4, pp. 38-56, 2014.
- [13] Dan-Dan Zhao, An Zeng, Ming-Sheng Shang, and **Jian Gao**. Long-term effects of recommendation on the evolution of online systems. *Chinese Physics Letters*, 30: 8901, 2013.

Selected Activities

Aug 2016	Complex Network, Human Behavior, and Neural Science	Chengdu, China
Mar 2016	Interdisciplinary Complex Systems Science Seminar in BU	Boston, USA
Feb 2016	Workshop on Statistical Physics and Complex Networks in BU	Boston, USA
Oct 2015	Symposium on Complexity Science in SWUST	Mianyang, China
Jun 2015	The Statistical Physics and Complex Systems Conference	Lanzhou, China
Oct 2014	The 10th Chinese Conference on Complex Networks	Changsha, China
Jul 2014	The 2nd Academic Conference on Complexity Science	Wenzhou, China
Oct 2013	The 9th Chinese Conference on Complex Networks	Hangzhou, China

Selected Honors & Awards

2016	CSC Scholarship under the State Scholarship Fund <i>China Scholarship Council (CSC), Ministry of Education</i>	NaN
2013-2015	Graduate Student Scholarship & Tang Lixin Scholarship Education Development Foundation, UESTC & Xinshang Group	(0.5%)
2014	Best Poster Award in the 2nd Conference on Complexity Science <i>Chinese Complexity Science Research Council</i>	(Top 3)
2012	Outstanding Winner in 2012 Interdisciplinary Contest in Modeling <i>COMAP, sponsored by SIAM, NSA and INFORMS</i>	(0.3%)
2011	Outstanding Student of the University <i>awarded by the principal's office, the highest honor for undergraduates, UESTC</i>	(0.2%)
2009-2011	National Inspiration Scholarship <i>Ministry of Education of the People's Republic of China</i>	(5%)

Service Experience

Reviewer	Physica A: Statistical Mechanics and its Applications, Elsevier B.V.	2016
	Journal of University of Electronic Science and Technology of China, UESTC Press	2016
Committee	Secretary, Dissertation Defense Committee of UESTC	2016
	Member, Creation, Study and Share Club of UESTC	2013
	Instructor, Association of Mathematical Modeling of UESTC	2011

Skills

Computing	MATLAB (practical), Python (basic)	◇ Visualization: OriginLab, Gephi, D3, AI
Language	English (fluent), Chinese (native)	◇ Typesetting: \LaTeX , MS Office

References

Prof. Tao Zhou , zhutou@ustc.edu	Chengdu, China
Big Data Research Center, University of Electronic Science and Technology of China	
Prof. Yanqing Hu , yanqing.hu.sc@gmail.com	Zhongshan, China
School of Data and Computer Science, Sun Yat-sen University	
Prof. Ming-Sheng Shang , msshang@cigit.ac.cn	Chongqing, China
Chongqing Institute of Green and Intelligent Technology, Chinese Academy of Sciences	