

## Jian Lou

PMB 358303, 2301 Vanderbilt Place  
Nashville, TN, 37235  
Email (Primary): jian.lou@vanderbilt.edu  
Email (Alternative): loujian1989@gmail.com  
Cell: (+1) 615-839-0876  
Website: <http://www.jian-lou.com>

### EDUCATION

**Vanderbilt University**, Nashville, TN, U.S.

Ph.D., Computer Science, *Aug. 2014 – May. 2019(expected)*

advised by Prof. Yevgeniy Vorobeychik

Concentrate on computational game theory, security of cyber-physical systems, algorithmic mechanism design and machine learning.

**University of Science and Technology of China(USTC)**, Hefei, China

M.Sc, Computer Science, *Sept. 2011 – Jul. 2014*

Co-advised by Prof. Xiaoping Chen and Prof. Wei Huang

**University of Electronic Science and Technology of China(UESTC)**, Chengdu, China

B.Sc, Computer Science and Technology, *Sept. 2007 – Jul. 2011*

### RESEARCH INTERESTS

Artificial Intelligence, Multi-agent System, Machine Learning, Computational Game Theory, Algorithmic Mechanism Design, Cyber-Physical Systems Security, Social Networks, etc.

### PROGRAMMING SKILLS

Java, C/C++, Python, matlab, R, etc.

### SELECTED PROJECTS

**Science of Secure and Resilient Cyber-Physical Systems** 08/2014 – 12/2015

- Design and analyze game theoretical models of cyber-physical systems in which there exists strategic adversary. Theoretically and empirically evaluate distributed defenders' coordination and non-cooperation in network settings (e.g. power grid networks).
- Design resilient dynamic traffic light control algorithms, given traffic network can be attacked by a strategic attacker. Implement the traffic control algorithms and perform simulation on a simulation suit called SUMO (short for "Simulation of Urban MObility").
- Design and analyze game theoretical models to mitigating spear-phishing attacks in email filtering systems. Given both defenders and attackers are strategic, design algorithms to find the optimal classifiers for defenders.

**Theory and Application of Mechanism Design for Team Formation** 01/2016 – Present

- Collaborated with economists, design team formation mechanisms that could balance economic requirement and computational efficiency. Evaluate the team formation mechanisms in synthetic and real-world social networks.

### PUBLICATIONS

1. Wei Huang, Lei Zhang, Yu Huang and **Jian Lou**. Allocating Indivisible Objects with a Parallel Method Insensitive to Identities. *IEEE Access*, 2017 (to appear).

2. **Jian Lou**, Andrew Smith, Yevgeniy Vorobeychik. Multidefender Security Games. *IEEE Intelligent Systems*, 2017.
3. **Jian Lou** and Yevgeniy Vorobeychik. Decentralization and Security in Dynamic Traffic Light Control. *Symposium and Bootcamp on the Science of Security (HotSoS-2016)*, Pittsburgh, PA.
4. Aron Laszka, **Jian Lou** and Yevgeniy Vorobeychik. Multi-Defender Strategic Filtering Against Spear-Phishing Attacks. *Proceedings of the Thirtieth AAAI Conference on Artificial Intelligence (AAAI-2016)*, Phoenix, AZ.
5. **Jian Lou** and Yevgeniy Vorobeychik. Equilibrium Analysis of Multi-defender Security Games. *Proceedings of the Twenty-Fourth International Joint Conference on Artificial Intelligence (IJCAI-2015)*, Buenos Aires, Argentina.
6. Wei Huang, **Jian Lou**, Zhonghua Wen. A Parallel Elicitation-Free Protocol for Allocating Indivisible Goods. *IJCAI-2013 Multidisciplinary Workshop on Advances in Preference Handling*
7. Wei Huang, **Jian Lou**, Zhonghua Wen. Allocating Indivisible Resources under Price Rigidities in Polynomial Time. *IJCAI-2013 Multidisciplinary Workshop on Advances in Preference Handling*

Working Papers:

8. (*alphabetic order*) Matthew Chambers, Chen Hajaj , Greg Leo, **Jian Lou**, Martin Van der Linden, Yevgeniy Vorobeychik, Myrna Wooders. Non-Cooperative Team Formation and a Team Formation Mechanism. (*submitted to*) *Games and Economic Behavior*
9. (*alphabetic order*) Greg Leo, **Jian Lou**, Martin Van der Linden, Yevgeniy Vorobeychik, Myrna Wooders. Matching Soulmates. (*submitted to*) *American Economic Journal: Microeconomics*

## SELECTED HONORS

- **National Scholarship for Graduate Students**, awarded by the Ministry of Education and the Ministry of Finance of P.R. China, 2013
- **Outstanding Graduate**, University of Science and Technology of China, 2014
- **Second-Class prize** in The UESTC and Southwest China Programming Contest, 2010,2011
- **Second-Class People's Scholarship** in UESTC, 2009

## MAJOR COURSES

Advanced Artificial Intelligence, Machine Learning, Computational Economics, Statistical Analysis, Design and Analysis of Algorithms, Graph Algorithm, Security of Cyber-Physical Systems, Linear Optimization, Non-linear Optimization

## ACADEMIC ACTIVITIES

- Reviewer of several conferences and journals: IJCAI, AAAI, UAI, AAMAS, ACM EC, JAA-MAS, etc.
- Present papers in IJCAI-15, AAAI-16, HotSoS-16, etc.