Jian Lou

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OBJECTIVE

Research Scientist, Data Scientist or Machine Learning Engineer – 2019 Fall

EXPERIENCE

Alibaba Group (U.S.), Seattle, WA
Research Intern at DAMO Academy, *07/2018 – 05/2019(expected)*
Concentrate on pricing, mechanism design and online learning in computational resource (Alibaba cloud service) allocation and management.

EDUCATION

Vanderbilt University, Nashville, TN
Ph.D., Computer Science, *08/2014 – 05/2019(expected)*
Advised by Prof. Yevgeniy Vorobeychik

University of Science and Technology of China(USTC), Hefei, China
M.Sc, Computer Science, *09/2011 – 07/2014*
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, *09/2007 – 07/2011*

RESEARCH INTERESTS

Artificial Intelligence, Machine Learning, Computational Game Theory, Auction Theory, Mechanism Design, Online Learning, Reinforcement Learning, Operation Research and Optimization, Security and Privacy, Multi-agent System, Social Networks, Cyber-Physical Systems Security, etc.

PROGRAMMING SKILLS

Python, Java, C/C++, Matlab, R, CPLEX, SQL, etc.

SELECTED PROJECTS

Mechanism Design in Computational Resource Allocation 07/2018 – 05/2019(expected)

- Design pricing mechanisms to improve the profit for Alibaba cloud service. As users' preferences are unknown, use online learning and robust optimization to learn the preferences.
- Do research to improve the efficiency and save energy for cloud service inside Alibaba Group using game theory, mechanism design and operation research.

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

- 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.
- Theoretically and empirically evaluate distributed defenders' coordination and non-cooperation in network settings, given there exists strategic adversary.

Theory and Application of Mechanism Design for Team Formation 01/2016 – 06/2018

- Collaborated with economists, adapt mixed integer program approach to form teams. The mechanism 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***.
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. **Jian Lou**, Huan Xu, Yang Liu, Yevgeniy Vorobeychik, Sen Yang. Secondary Market among Newsvendors. *preparing for* ***ACM Conference on Economics and Computation (ACM EC'19)*** *and* ***Management Science***
9. (*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***.
10. (*alphabetic order*) Greg Leo, **Jian Lou**, Martin Van der Linden, Yevgeniy Vorobeychik, Myrna Wooders. Matching Soulmates. *(submitted to)* ***Economic Theory***.

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, Contemporary Statistical Inference, Advanced Statistical Inference (Statistical Learning), Advanced Regression Analysis, Design and Analysis of Algorithms, Graph Algorithm, Security of Cyber-Physical Systems, Linear Optimization, Non-linear Optimization