

WEN SHEN

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Research Interests

Mechanism Design, Multi-Agent Systems, Human-Machine Interaction, Machine Learning, Network Analysis

Education

University of California, Irvine

Irvine, CA, USA

Ph.D in Information and Computer Science

May 2019 (expected)

- Dissertation: Beyond Nash Equilibrium: Mechanism Design with Thresholding Agents.
- Committee: Cristina V. Lopes (chair), Wenlong Jin, and Amelia Regan

Masdar Institute of Science and Technology

Abu Dhabi, UAE

M.S. in Computing and Information Science

June 2013

- Thesis: *Regulating Self-Adaptive Multi-Agent Systems with Real-Time Interventions.*
- Committee: Jacob W. Crandall (chair), Iyad Rahwan, and Zeyar Aung

Northwestern Polytechnical University

Xi'an, China

B.E. in Software Engineering (with distinction)

July 2009

- Thesis: *A Spam Filtering System using Naïve Bayes.*
 - Advisors: Yi Lin, and Wei Zheng
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Professional Experience

University of California, Irvine

Irvine, CA, USA

Research Assistant

2014 - Present

- Project A: *Mechanism Design for Online Platforms* (Papers: 1, 2, 3, 5, 7).
- Project B: *An Aspect-Oriented Approach to Large-Scale Urban Simulations* (Papers: 4, 7, 8).

Masdar Institute of Science and Technology

Abu Dhabi, UAE

Research Engineer

2013 - 2014

- Project: *Monitoring and Predictive Maintenance of Buildings and Building Systems* (Papers: 11-15).

Masdar Institute of Science and Technology

Abu Dhabi, UAE

Research Assistant

2011 - 2013

- Project A: *Trade-offs in Regulating Highly Automated Machine Ecologies* (Papers: 6, 18).
- Project B: *Energy Time Series Forecasting* (Paper: 9).

Shenzhen Comtop Information Technology Co. Ltd.

Shenzhen, China

Software Engineer

2009-2010

Working Papers

1. [W. Shen](#), K. Yan, C.V. Lopes: *Manipulation-Resistant Mechanism Design for Strategic Network Diffusion*.
 2. [W. Shen](#), C.V. Lopes: *Countering Free Riding in Utility Sharing with Sequential Contests*.
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Refereed Conference Papers

(In CS, conferences are the primary venues for scientific publications. Google Scholar: <https://goo.gl/qaXQQR>)

3. [W. Shen](#), Y. Feng, C. V. Lopes: *Multi-Winner Contests for Strategic Diffusion in Social Networks*. In Proc. of the 33rd AAAI Conf. on Artificial Intelligence (**AAAI 2019**).
 4. [W. Shen](#), R. Achar, C. V. Lopes: *Toward Understanding the Impact of User Participation in Autonomous Ridesharing Systems*. In Proc. of the 2018 Winter Simulation Conference (**WSC 2018**).
 5. [W. Shen](#), J.W. Crandall, K. Yan, C.V. Lopes: *Information Design in Crowdfunding under Thresholding Policies*. In Proc. of the 17th Intl. Conf. on Autonomous Agents and Multi-Agent Systems (**AAMAS 2018**).
 6. [W. Shen](#), A. A. Khemiri, A. Almhrezi, W.A. Enezi, I. Rahwan, J.W. Crandall: *Regulating Highly Automated Robot Ecologies: Insights from Three User Studies*. In Proc. of Intl. Conf. on Human-Agent Interaction (**HAI 2017**). **Winner of Best Student Paper Award**. Selected Media: *Heise online*.
 7. [W. Shen](#), C.V. Lopes, J.W. Crandall: *An Online Mechanism for Ridesharing in Autonomous Mobility-on-Demand Systems*. In Proc. of the 25th Intl. Joint Conf. on Artificial Intelligence (**IJCAI 2016**).
 8. [W. Shen](#), C. V. Lopes: *Managing Autonomous Mobility on Demand Systems for Better Passenger Experience*. In Proc. of the 18th Conf. on Principles and Practice of Multi-Agent Systems (**PRIMA 2015**).
 9. [W. Shen](#), V. Babushkin, Z. Aung, W.L. Woon: *An Ensemble Model for Day-ahead Electricity Demand Time Series Forecasting*. In Proc. of ACM Intl. Conf. on Future Energy Systems (**ACM e-Energy 2013**).
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Refereed Journal Articles

10. K. Yan, W. Shen, H. Lu and Q. Jin: *Emerging Privacy Issues and Solutions in Cyber-Enabled Sharing Services: From Multiple Perspectives*. **IEEE Access**, 2019.
11. K. Yan, L. Ma, Y Dai, W. Shen, Z. Ji: *Cost-sensitive and Sequential Feature Selection for Chiller Fault Detection and Diagnosis*. **International Journal of Refrigeration**, Vol. 86 (2018), pp. 401-409.
12. K. Yan, Z. Ji, H. Lu, J. Huang, W. Shen, Y. Xue: *Fast and Accurate Classification of Time Series Data using Extended ELM: Application in Fault Diagnosis of Air Handling Units*. **IEEE Transactions on Systems, Man and Cybernetics: Systems**, Vol. PP (2017), Issue 99, pp. 1-8.
13. K. Yan, Z. Ji, W. Shen: *Online Fault Detection Methods for Chillers Combining Extended Kalman Filter and Recursive One-class SVM*. **Neurocomputing**, Vol.228 (2017), pp. 205-212.
14. T. Mulumba, A. Afshari, K. Yan, W. Shen, L. K. Norford: *Robust Model-based Fault Diagnosis for Air Handling Units*. **Energy and Buildings**, Vol.86(2015), pp. 698-707.
15. K. Yan, W. Shen, T. Mulumba, A. Afshari: *ARX Model Based Fault Detection and Diagnosis for Chillers using Support Vector Machines*. **Energy and Buildings**, vol.81(2014), pp. 287-295.
16. W. Zheng, W. Shen, Y. Zhang: *Implementing Spam Filter by Improving Naïve Bayesian Algorithm*. **Journal of Northwestern Polytechnical University**, vol.28, no.4, pp. 622-627, 2010.

Technical Reports

17. B. Quadros, R. Kadam, D. Lavaniya, M. Mukhtar, K., Saxena, W. Shen, A. Kobsa: *Dashbell: A Low-cost Smart Doorbell System for Home Use*. (**PerCom WiP 2016**, accepted).
18. W. Shen: *Regulating Self-Adaptive Multi-Agent Systems with Real-Time Interventions*. Master Thesis, Masdar Institute of Science and Technology, June 2013.

Honors and Awards

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| Student Travel Grant, Bren School of ICS, University of California, Irvine | 2019 |
| Student Travel Award, International Conference on Autonomous Agents and Multiagent Systems | 2018 |
| Best Student Paper Award, International Conference on Human-Agent Interaction | 2017 |
| Chair's Award, Department of Informatics, University of California, Irvine | 2014 |
| Student Travel Grant (US\$2,500), Masdar Institute of Science and Technology | 2013 |
| Outstanding Bachelor Thesis Award, Northwestern Polytechnical University | 2009 |
| National Endeavor Scholarship, Ministry of Education of China | 2008 |
| Academic Excellence Scholarship, Northwestern Polytechnical University | 2006-2008 |

Teaching

Mentor, Pratik Shetty (M.S. at UCI, Now a software engineer at Microsoft), 2018
Reader, ICS45J - Programming In Java, Spring 2018, Fall 2018, Winter 2018
Assistant, INF295 - Distributed Interactive Simulation, Spring 2016
Reader, INF124 - Internet Applications Engineering, Spring 2015
Reader, INF225/CS221 - Information Retrieval, Winter 2015
Reader, INF43 - Introduction to Software Engineering, Fall 2014

Academic Service

Conference Reviewer: The Annual ACM/IEEE International Conference on Human Robot Interaction 2016-2019; International Conference on Human-Agent Interaction 2017; The CHI Conference on Human Factors in Computing Systems 2017.

Journal Reviewer: World Wide Web (WWW) 2019; Journal of Urban Technology 2018; IEEE Access 2018; Applied Thermal Engineering 2018; Transportation Science 2017; IEEE Transactions on Systems, Man, and Cybernetics: Systems 2017; International Journal of Electrical Power & Energy Systems 2013.

Selected Courses

Techniques in Artificial Intelligence, Machine Learning, Data Mining, Design and Analysis of Algorithms
Advanced Game Theory, Multi-Agent Systems, Social Analysis of Computing, Software Engineering
Ubiquitous Computing, Research Methods for Human Computer Interaction

References

Cristina V. Lopes, Professor of Informatics, University of California, Irvine, Email: lopes@ics.uci.edu
Jacob W. Crandall, Assoc. Professor of Computer Science, Brigham Young University, Email: crandall@cs.byu.edu
Ke Yan, Assoc. Professor of Information Engineering, China Jiliang University, Email: yanke@cjlu.edu.cn