

# WEN SHEN

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## Research Interests

Artificial Intelligence, Multi-Agent Systems, Game Theory, Online Learning, Human-Agent Interaction

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## Education

### University of California, Irvine

Irvine, CA, USA

*Ph.D in Information and Computer Science*

*June 2019 (expected)*

- Dissertation (tentative title): Mechanism Design for Online Platforms: Theory and Applications.
- Committee: Cristina V. Lopes (chair), Alfred Kobsa, 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*

*Sept. 2014 - Present*

- Project 1: *Mechanism Design for Online Platforms* (Papers: 1, 3, 5).
- Project 2: *An Aspect-Oriented Approach to Large-Scale Urban Simulations* (Papers: 2, 5, 6).

### Masdar Institute of Science and Technology

Abu Dhabi, UAE

*Research Engineer*

*Aug. 2013 - Aug. 2014*

- Project: *Monitoring and Predictive Maintenance of Buildings and Building Systems* (Papers: 8-12).

### Masdar Institute of Science and Technology

Abu Dhabi, UAE

*Research Assistant*

*Sept. 2011 - May 2013*

- Project: *Trade-offs in Regulating Highly Automated Machine Ecologies* (Papers: 4, 16).
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## Refereed Conference Papers

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

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

8. 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.
9. 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.
10. 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.
11. 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.
12. 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.
13. 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.

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## Technical Reports

14. K. Yan, W. Shen, H. Lu and Q. Jin: *Emerging Privacy Issues and Solutions in Cyber-Enabled Sharing Services*. arXiv preprint arXiv:1711.07172. (Revise & Resubmit at **IEEE Access**).
15. B. Quadros, R. Kadam, D. Lavaniya, M. Mukhtar, K., Saxena, W. Shen, A. Kobsa: *Dashbell: A Low-cost Smart Doorbell System for Home Use*. IEEE International Conference on Pervasive Computing and Communications Work in Progress (**PerCom WiP 2016**, accepted ).
16. W. Shen: *Regulating Self-Adaptive Multi-Agent Systems with Real-Time Interventions*. Master Thesis, Masdar Institute of Science and Technology, June 2013.

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## Honors and Awards

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

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## Teaching

Mentor, Pratik Shetty (Previously a master student 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

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## Academic Service

**Journal Reviewer:** Journal of Urban Technology 2018; Transportation Science 2017; IEEE Transactions on Systems, Man, and Cybernetics: Systems 2017; International Journal of Electrical Power & Energy Systems 2013.  
**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.

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## References

Available upon request