

Xiaoming Zheng

Curriculum Vitae

Computer Science Department, University of Southern California (USC)
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RESEARCH INTERESTS

Artificial Intelligence; Multi-Agent Systems; Distributed Computing Systems; Intelligent Systems; Task and Resource Allocation; Planning and Scheduling; Operations Research and Optimization; Algorithmic Game Theory; Computational Mechanism Design

EDUCATION

- University of Southern California**, Computer Science Department, Los Angeles (California) 2004 - 2010
Doctor of Philosophy in Computer Science, Thesis Topic: "*Market-Based Algorithms for Task Allocation to Distributed Agents*", 2010 (expected)
Advisor: Prof. Sven Koenig
- University of Southern California**, Economics Department, Los Angeles (California) 2006 - 2009
Master of Art in Economics, 2009
Advisor: Prof. Juan D. Carrillo
- University of Southern California**, Computer Science Department, Los Angeles (California) 2004 - 2007
Master of Science in Computer Science, 2007
Advisor: Prof. Sven Koenig
- University of Science and Technology of China**, Computer Science Department, Hefei (China) 1999 - 2004
Bachelor of Technology in Computer Science, 2004, Thesis Topic: "*Commitment-Based Agent in Distributed Computing Environment*"
Advisor: Prof. Xiaoping Chen

RESEARCH EXPERIENCE

- 2004 - 2010 **University of Southern California**, Computer Science Department (California)
Graduate Research Assistant with Prof. Sven Koenig in the Intelligent Decision Making Laboratory (IDM-Lab)
- 2007 - 2009 **University of Southern California**, Economics Department (California)
Direct Research with Prof. Juan D. Carrillo in the Theoretical Research of Neuroeconomic Decision Making Laboratory (TREND-Lab)
- Summer 2007 **AT&T Shannon Labs Research**, Applied Data Mining Department (New Jersey)
Research Intern with Dr. Ali Bastani and Dr. Phyllis Weiss for the AT&T Western Region Project
- 2002 - 2004 **University of Science and Technology of China**, Computer Science Department (China)
Undergraduate Research Assistant with Prof. Xiaoping Chen in the Multi-Agent Systems Laboratory
- 2003 - 2004 **University of Science and Technology of China**, School of Software Engineering (China)
Research Intern with Prof. Yu Zhang in the Global Computing Laboratory

RELEVANT COURSEWORK

Graduate Level Courses in Computer Science

- 2007 Modern Cryptography, Advanced Operating Systems
2006 Robotics, Machine Learning
2005 Software Architecture, Advanced Database Systems, Software Multi-Agent Systems
2004 Analysis of Algorithm, Advanced Artificial Intelligence

Graduate Level Courses in Geographic Information Science

- 2009 Concepts for Spatial Thinking, Spatial Database, GIS Programming and Customization

Graduate Level Courses in Economics and Mathematics

2008	Econometric Methods, Microeconomic Analysis and Policy
2007	Probability and Statistics, Macroeconomic Theory I
2006	Microeconomic Theory I, Microeconomic Theory II
2005	Game Theory

SELECTED AWARDS

2009	IJCAI 2009 Conference Travel Grant (University of Southern California)
2008	AAMAS 2008 Conference Travel Grant (University of Southern California)
2007	AAAI 2007 Conference Travel Grant (University of Southern California)
2007	IJCAI 2007 Conference Travel Grant (University of Southern California)
2003	Paper Award in Huawei-Cup Paper Contest (University of Science and Technology of China, Huawei Information Technology Institute)
Fall 2003	Excellent Undergraduate Research Award, on Project "Key problems in Agent-Based Computing" (University of Science and Technology of China)
Spring 2003	Excellent Undergraduate Research Award, on Project "Deliberative Adaptation" (University of Science and Technology of China)
2001-2003	Outstanding Student Award for 3 years in a row (University of Science and Technology of China)
2000	Freshman Scholarship (University of Science and Technology of China)
1998	National Award in China Olympiad Contest in Physics (China)

TEACHING EXPERIENCE

Fall 2009	Guest Lecturer for the graduate level course " <i>Foundations of Artificial Intelligence</i> "
Spring 2009	Teaching Assistant for the graduate level course " <i>Modern Cryptography</i> "
Fall 2008	Teaching Assistant for the graduate level course " <i>Analysis of Algorithms</i> "
Fall 2003	Organizer of the seminar course " <i>Reason about Action and Change</i> " Lecturer for the section " <i>Least Commitment Planning</i> "
Spring 2003	Organizer of the seminar course " <i>BDI-modeling Theory for Intelligent Agent</i> " Lecturer for the section " <i>Intention Theory and Its Formalization</i> "

PROFESSIONAL EXPERIENCE

Reviewer

2010	International Journal of Robotics Research (IJRR); International Conference on Automated Planning and Scheduling (ICAPS)
2009	Journal of Autonomous Agents and Multi-Agent Systems (JAAMAS); Neural Computing and Applications (NCA); International Journal of Robotics Research (IJRR); the Conference on Auctions, Market Mechanisms, and Their Applications (AMMA)
2008	The International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS); the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)
2007	The IEEE International Conference on Robotics and Automation (ICRA); Annals of Math and Artificial Intelligence (AMAI) Special Issue on Multi-Robot Coverage, Search, and Exploration; Journal of Field Robotics (JFR)

OTHER EXPERIENCE

2008 - 2009	President of Chinese Student and Scholar Association in Southwest of America (SW CSSA)
2007 - 2008	President of Chinese Student and Scholar Association in University of Southern California (USC CSSA)
2006 - 2007	Maintainer of the ICAPS conference repository (www.icaps-conference.org)
2001	Member of Organizing Committee for " <i>Lenovo-Cup Software Development National Competition</i> "

PUBLICATIONS

Xiaoming Zheng, Sven Koenig, David Kempe and Sonal Jain. Multi-Robot Forest Coverage for Weighted and Unweighted Terrain. *To appear in IEEE Transactions on Robotics*, 2010.

Xiaoming Zheng and Sven Koenig. Sequential Incremental-Value Auctions. *Submitted to the AAAI Conference on Artificial Intelligence (AAAI)*, 2010.

- Xiaoming Zheng and Sven Koenig. Generalized Reaction Functions for Solving Complex Task Allocation Problems. *Submitted to the AAI Conference on Artificial Intelligence (AAAI)*, 2010.
- Xiaoming Zheng and Sven Koenig. Market-Based Algorithms for Solving Complex Task Allocation Problems [Student Abstract]. *Submitted to the AAI Conference on Artificial Intelligence (AAAI)*, 2010.
- Xiaoming Zheng and Sven Koenig. *A Project on Gesture Recognition with Neural Networks for 'Introduction to Artificial Intelligence' Classes*. Technical Report, Department of Computer Science, University of Southern California, Los Angeles (California), 2010.
- Xiaoming Zheng and Sven Koenig. Negotiation with Reaction Functions for Solving Complex Task Allocation Problems. In *Proceedings of the IEEE International Conference on Intelligent Robots and Systems (IROS)*, pages 4811-4816, 2009.
- Xiaoming Zheng and Sven Koenig. K-Swaps: Cooperative Negotiation for Solving Task-Allocation Problems. In *Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI)*, pages 373-379, 2009.
- Xiaoming Zheng and Sven Koenig. Greedy Approaches for Solving Task-Allocation Problems with Coalitions. In *Proceedings of the AAMAS-08 Workshop on Formal Models and Methods for Multi-Robot Systems*, pages 35-40, 2008.
- Sven Koenig, Xiaoming Zheng, Craig Tovey, Richard Borie, Philip Kilby, Vangelis Markakis and Pinar Keskinocak. Agent Coordination with Regret Clearing. In *Proceedings of the AAI Conference on Artificial Intelligence (AAAI)*, pages 101-107, 2008.
- Xiaoming Zheng and Sven Koenig. Reaction Functions for Task Allocation to Cooperative Agents. In *Proceedings of the International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS)*, pages 559-566, 2008.
- Xiaoming Zheng and Sven Koenig. Robot Coverage of Terrain with Non-Uniform Traversability. In *Proceedings of the IEEE International Conference on Intelligent Robots and Systems (IROS)*, pages 3757-3764, 2007.
- Sven Koenig, Craig Tovey, Xiaoming Zheng and Ilgaz Sungur. Sequential Bundle-Bid Single-Sale Auction Algorithms for Decentralized Control, In *Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI)*, pages 1359-1365, 2007.
- Xiaoming Zheng, Sven Koenig and Craig Tovey. Improving Sequential Single-Item Auctions, In *Proceedings of the IEEE International Conference on Intelligent Robots and Systems (IROS)*, pages 2238-2244, 2006 (ORAL PRESENTATION). Also in: *Proceedings of the AAI 2006 Workshop on Auction Mechanisms for Robot Coordination*.
- Xiaoming Zheng, Sonal Jain, Sven Koenig and David Kempe. Forest-Based Multirobot Coverage, In *Proceedings of the IEEE International Conference on Intelligent Robots and Systems (IROS)*, pages 2318-2323, 2005.
- Xiaoming Zheng. An Abstract of Software System: Commitment-Based System, In *Proceedings of the China National Software and Application Conference (NSAC)*, 2003.
- Xiaoming Zheng and Xiaoping Chen. An Analysis of Commitment in Agent-Based Computing, In *Proceedings of the 10th China National Conference on Artificial Intelligence (CAAI)*, 2003.

REFERENCES

Prof. Sven Koenig

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Prof. Craig Tovey

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