

CURRICULUM VITAE

Name: Xinqin (Shelley) Zhang

College: College of Engineering

Title: Assistant Professor

Department: Computer and Information Science

Homepage: <http://www.cis.umassd.edu/~x2zhang/>

HIGHER EDUCATION

Doctor of Philosophy, Computer Science.

University of Massachusetts at Amherst, September 2002.

Master of Science, Computer Science.

University of Massachusetts at Amherst, 1998.

Bachelor of Science, Computer Science.

University of Science & Technology of China, P.R.China, 1995.

EXPERIENCE

Assistant Professor, Department of Computer and Information Science, University of Massachusetts at Dartmouth (Sept. 2002 – Present).

Research Assistant, Multi-Agent Systems Laboratory, University of Massachusetts at Amherst (Sept. 1996 – Aug. 2002)

Courses taught at UMass Dartmouth

| <i>Spring 2008</i> | <i>Fall 2007</i> |
|---|--|
| 1. CIS 455 – Bio-Informatics | 1. CIS 160 - Exploring Computer Programming With Animation |
| 2. CIS 690 – Master Thesis | 2. CIS 563 – Multi-Agent Systems |
| 3. CIS 600 – Master Project | 3. CIS 690 – Master Thesis |
| * Buy out teaching release of one course because of the GILA grant activity | 4. CIS 600 – Master Project |
| | 5. CIS 599 – CIS graduate Seminar |

| <i>Spring 2007</i> | <i>Fall 2006</i> |
|---|--|
| 1. CIS 561 – Artificial Intelligence | 1. CIS 261 – Computer programming, FORTRAN |
| 2. CIS 600 – Master Project | 2. CIS 563 – Multi-Agent Systems |
| 3. CIS 599 – CIS graduate Seminar | 3. CIS 690 – Master Thesis |
| * Teaching release of one course because of the GILA grant activity | 4. CIS 600 – Master Project |
| | 5. EGR 500 – Graduate Internship |

| <i>Spring 2006</i> | <i>Fall 2005</i> |
|---|--|
| 1. CIS 360 - Algorithms and Data Structures | 1. CIS 261 – Computer programming, FORTRAN |
| 2. CIS 412 – Foundations of Artificial Intelligence | 2. CIS 561 – Artificial Intelligence |
| 3. CIS 600 – Master Project | 3. CIS 600 – Master Project |

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|---|---|
| <i>Spring 2005</i> | <i>Fall 2004</i> |
| <ol style="list-style-type: none"> 1. CIS 412 – Foundations of Artificial Intelligence 2. CIS 563 – Multi-Agent Systems 3. CIS 690 – Master Thesis | <ol style="list-style-type: none"> 1. CIS 210 – Understanding E-commerce Technologies 2. CIS 561 – Artificial Intelligence 3. CIS 561-91 – Artificial Intelligence (Raytheon) 4. CIS 600 – Master Project |
| <i>Spring 2004</i> | <i>Fall 2003</i> |
| <ol style="list-style-type: none"> 1. CIS 412 – Foundations of Artificial Intelligence 2. CIS 596 – Directed Study 3. CIS 690 – Master Thesis | <ol style="list-style-type: none"> 1. CIS 180 – Object Oriented Programming 2. CIS 561 – Artificial Intelligence 3. CIS 600 – Master Project |
| <i>Spring 2003</i> | <i>Fall 2002</i> |
| <ol style="list-style-type: none"> 1. CIS 412 – Foundations of Artificial Intelligence 2. CIS 600 – Master Project | <ol style="list-style-type: none"> 1. CIS 180 – Object Oriented Programming (Section 04, 05) 2. CIS 180 – Object Oriented Programming (Section 06, 07) |

New courses proposed at UMass Dartmouth

CIS 160 - Exploring Computer Programming With Animation
 CIS 210 - Understanding E-commerce Technologies (with Prof. Bergandy)
 CIS 455 - Bioinformatics (with Prof. Valova) (Implemented by other faculty)
 CIS 477 - Computer and Information System Security (Implemented by other faculty)
 CIS 563 - Multi-Agent Systems
 CIS 599 - CIS Graduate Seminar

Course change proposed at UMass Dartmouth

CIS 115 - Computer Programming with C
 CIS 261 - Computer Programming, FORTRAN

PUBLICATIONS/CREATIVE WORKS/SHOWS/PERFORMANCES (Unless otherwise specified, the first author is the one who made the major contribution)

Journal Publications

- J-1 Xiaoqin Zhang, Haiping Xu and Bhavesh Shrestha (UMD student). *An Integrated Role-Based Approach for Modeling, Designing and Implementing Multi-Agent Systems*. Journal of the Brazilian Computer Society (JCBS) Special Issue on Software Engineering for Multi-Agent Systems. Vol. 13(1): 45-60, July 2007.
- J-2 Haiping Xu, Xiaoqin Zhang and Rinkesh J. Patel (UMD student). *Developing Role-Based Open Multi-Agent Software Systems*. International Journal of Computational Intelligence: Theory and Practice. Vol. 2(1): 39-56, June 2007.
- J-3 Xiaoqin Zhang, Victor Lesser and Tom Wagner. *Integrative Negotiation Among Agents Situated in Organizations*. IEEE Transactions on System, Man, and Cybernetics: Part C, Vol. 36(1): 19-30, January 2006.

- J-4 Qinhe Zheng (UMD student), Xiaoqin Zhang. *Automatic Formation and Analysis of Multi-agent Virtual Organization*. Journal of the Brazilian Computer Society (JCBS) Special Issue on Agents Organizations. Vol. 11(1): 74-89. July 2005.
- J-5 Xiaoqin Zhang, Victor Lesser and Sherief Abdallah. *Efficient Management of Multi-Linked Negotiation Based on a Formalized Model*. Journal of Autonomous Agents and Multiagent Systems. Vol. 10 (2): 165–205. March 2005.
- J-6 Xiaoqin Zhang, Victor Lesser, Rodion Podorozhny. *Multi-Dimensional, Multi-Step Negotiation for Task Allocation in a Cooperative System*. Journal of Autonomous Agents and Multiagent Systems. Vol. 10 (1): 5–40. January 2005.
- J-7 Xiaoqin Zhang, Victor Lesser and Tom Wagner. *A Layered Approach to Complex Negotiations*. Web Intelligence and Agent Systems: An International Journal (WIAS). Vol. 2(2): 91-104, 2004. IOS Press, Netherlands.
- J-8 Lesser, V.; Decker, K.; Wagner, T.; Carver, N.; Garvey, A.; Horling, B.; Neiman, D.; Podorozhny, R.; NagendraPrasad, M.; Raja, A.; Vincent, R.; Xuan, P.; Zhang, X.Q. *Evolution of the GPGP/TAEMS Domain-Independent Coordination Framework*. Journal of Autonomous Agents and Multiagent System. Vol. 9(1&2): 87-143, 2004.
- J-9 Victor Lesser, Bryan Horling, Anita Raja, Thomas Wagner, and Xiaoqin Zhang. *Resource-Bounded Searches in an Information Marketplace*. IEEE Internet Computing: Agents on the Net. Vol. 4(2): 49-57. March 2000, IEEE Computer Society Publications.
- J-10 Victor Lesser, Bryan Horling, Frank Klassner, Anita Raja, Thomas Wagner, and Shelley XQ. Zhang. *BIG: An Agent for Resource-Bounded Information Gathering and Decision Making*. Artificial Intelligence Journal. Vol. 118(1-2): 197-244. May 2000, Elsevier Science.

Highly refereed conference publications

- C-1 Xiaoqin Zhang, Victor Lesser. *Meta-Level Coordination for Solving Negotiation Chains in Semi-Cooperative Multi-Agent Systems*. In proceedings of the Sixth International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS 07), pages 50-57, May 14-18, 2007, Honolulu, Hawaii. Acceptance rate 22%.
- C-2 Rodion Podorozhny, Sarfraz Khurshid, Dewayne Perry, and Xiaoqin Zhang. *Verification of Multi-agent Negotiations using the Alloy Analyzer*. In proceedings of the Integrated Formal Methods Conference, pages 501 – 517. July 2-5, 2007. (IFM 2007). Oxford, UK
- C-3 Xiaoqin Zhang, Haiping Xu. *Towards Automated Development of Multi-Agent Systems Using RADE*. In Proceedings of the 2006 International Conference on Artificial Intelligence (ICAI-06), pages 44-50. June 26-29, 2006. Las Vegas, Nevada, USA.
- C-4 Haiping Xu, Xiaoqin Zhang. *A Methodology for Role-Based Modeling of Open Multi-Agent Software Systems*. In Proceedings of the 7th International Conference on Enterprise Information Systems (ICSIS 2005), pages 246-253. May 24-28, 2005. Miami, USA.
- C-5 Shen, Jiaying; Zhang, Xiaoqin; and Lesser, Victor. *Degree of Local Cooperation and its Implication on Global Utility*. In Proceedings of the Third International Joint Conference on

Autonomous Agents and Multi-Agent Systems (AAMAS 2004), Volume 2, pages 546-553. July 2004. Acceptance rate 23%.

C-6 Xiaoqin Zhang, Victor Lesser and Tom Wagner. *A Two-Level Negotiation Framework for Complex Negotiations*. In Proceedings of the IEEE/WIC International Conference on Intelligent Agent Technology (IAT 2003), pages 311-317. Halifax, Canada. 2003. Acceptance rate 23%.

C-7 Xiaoqin Zhang, Victor Lesser and Tom Wagner. *Integrative Negotiation In Complex Organizational Agent Systems*. In the Proceedings of the IEEE/WIC International Conference on Intelligent Agent Technology (IAT 2003). Pages 140-146. 2003. Halifax, Canada. Acceptance rate 23%.

C-8 Xiaoqin Zhang, Victor Lesser. *Multi-Linked Negotiation in Multi-Agent System*. In Proceedings of the First International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS 2002), pages 1207-1214. July 15-19, 2002. Bologna, Italy. Acceptance rate 26%.

C-9 Xiaoqin Zhang, Rodion Podorozhny, Victor Lesser. *Cooperative, Multi-Step Negotiation Over a Multi-Dimensional Utility Function Multi-Agent Systems Negotiation*. In Proceedings of the IASTED International Conference, Artificial Intelligence and Soft Computing (ASC 2000), pages 136-142. ASTED/ACTA Press, Banff, Canada, July 2000.

C-10 Justus H. Piater, Paul R. Cohen, Xiaoqin Zhang, Michael Atighetchi. *A Randomized ANOVA Procedure for Comparing Performance Curves*. In Shavlik, J., ed., *Machine Learning: Proceedings of the Fifteenth International Conference (1999)*, pages 430-438. Morgan Kaufmann Publishers, San Francisco, CA.

C-11 Victor Lesser, Bryan Horling, Frank Klassner, Anita Raja, Thomas Wagner and Shelley XQ. Zhang. *BIG: A Resource-Bounded Information Gathering Agent*. The Proceedings of the Fifteenth National Conference on Artificial Intelligence (AAAI-98). Pages 539 - 546. Acceptance rate 31%.

C-12 Victor Lesser, Bryan Horling, Frank Klassner, Anita Raja, Thomas Wagner, and Shelley XQ. Zhang. *A Next Generation Information Gathering Agent*. In Proceedings of the 4th International Conference on Information Systems, Analysis, and Synthesis; in conjunction with the World Multiconference on Systemics, Cybernetics, and Informatics (SCI'98), Orlando, FL, July 1998. Acceptance rate 67%.

Refereed symposia / workshop publications / posters / short papers

S-1 Xiaoqin Zhang, Haiping Xu, and Bhavesh Shrestha (UMD student). *Developing MAS with Automatic Agent Generation and Dynamic Task Allocation Mechanisms*. In proceedings of the Sixth International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS 07), pages 1246–1248. May 14-18, 2007, Honolulu, Hawaii. Acceptance rate 47%.

S-2 Xiaoqin Zhang, Qinhe Zheng (UMD student). *The Study of Virtual Organizations Using Multi-agent System*. In Proceedings of the Fourth International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS 2005), pages 1147-1148, July, 2005.

Acceptance rate 47%.

- S-3 Xiaoqin Zhang, Victor Lesser and Tom Wagner. *A multi-leveled negotiation framework*. In Proceedings of the Second International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS 2003), pages 1172 - 1173. Melbourne, Australia. 2003. Acceptance rate 50%.
- S-4 Xiaoqin Zhang, Victor Lesser and Tom Wagner. *Efficient ordering and parameterization of multi-linked negotiation*. In Proceedings of the Second International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS 2003), pages 1170 - 1171. 2003. Melbourne, Australia. Acceptance rate 50%.
- S-5 Xiaoqin Zhang, Victor Lesser and Tom Wagner. *Integrative Negotiation In Complex Organizational Agent Systems*. In Proceedings of the First International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS 2002), pages 503-504. July 15-19, 2002, Bologna, Italy. Acceptance rate 50%.
- S-6 Xiaoqin Zhang, Victor Lesser, Tom Wagner. *A Proposed Approach to Sophisticated Negotiation*. In Proceedings of the AAI Fall 2001 Symposium on Negotiation Methods for Autonomous Cooperative Systems, pages 1-10. AAI Press.
- S-7 Xiaoqin Zhang, Victor Lesser, Rodion Podorozhny. *New Results on Cooperative, Multi-Step Negotiation Over a Multi-Dimensional Utility Function*. In Proceedings of the AAI Fall 2001 Symposium on Negotiation Methods for Autonomous Cooperative Systems, pages 96-105. AAI Press.
- S-8 Xiaoqin Zhang, Anita Raja, Barbara Lerner, Victor Lesser, Leon Osterweil and Thomas Wagner. *Integrating High-Level and Detailed Agent Coordination into a Layered Architecture*. Lecture Notes in Computer Science (1887): Infrastructure for Scalable Multi-Agent Systems, Wagner/Rana editors, Springer-Verlag, pages 72-79, 2001.
- S-9 Victor Lesser, Michael Atighetchi, Brett Benyo, Bryan Horling, Anita Raja, Regis Vincent, Thomas Wagner, Xuan Ping, Shelley XQ Zhang. *The Intelligent Home Testbed*. In Proceedings of the Autonomy Control Software Workshop (Autonomous Agent Workshop), Seattle, 1999. Acceptance rate 27%.
- S-10 Victor Lesser, Bryan Horling, Frank Klassner, Anita Raja, Thomas Wagner, and Shelley XQ.Zhang. *Recent Extensions to BIG: A Resource-Bounded Information Gathering Agent*. In Proceedings of the AAI Workshop on Intelligent Information Systems, Orlando, Florida 1999,UMASS Technical Report 1999-13, March, 1999.
- S-11 Victor Lesser, Bryan Horling, Frank Klassner, Anita Raja, Thomas Wagner, and Shelley XQ. Zhang. *A Resource-Bounded Interpretation-Centric Approach to Information Gathering*. In Proceedings of the AAI-98 Workshop on Information Integration, 1998.

GRANTS RECEIVED

a. Multiple (in collaboration)

1. Research Grant from DAPRA/IPTO (Defense Advanced Research Projects Agency / Information Processing Technology Office) on *Generalized Integrated Learning Architecture* (GILA). As Principal Investigator. Project Start Date: May 2006. Project Period: 48 months. Amount awarded for UMass Dartmouth is \$289,704. The GILA project award is 22 million in total.
2. Collaborative Research grant from College of Engineering, UMass on *Role-Based Modeling of Open Multi-Agent Software Systems*. March 2005 – January 2006. Amount awarded: \$10,000. As Co-Principal Investigator.

b. Individual

1. Research Grant from ONR (Office of Naval Research) on *Build User Interface Agent to Enhance Underwater Vehicle Launch Dynamics Simulation (UVLDS)*. Nov 2006 – Dec 2008. Amount awarded: \$139,910. As Principal Investigator.
2. Travel grant of \$500 from the provost office. Spring 2006.
3. Research grant from UMass Dartmouth Research Foundation on *Multi-Agent Learning in Negotiation Chain*. June 2005 – June 2006. Amount awarded: \$4,760. As Principal Investigator.
4. Travel grant of \$500 from the provost office. Spring 2005.
5. Research grant from UMass Dartmouth Research Foundation on *Formation of Virtual Organizations*. March 2003 – August 2004. Amount awarded: \$3,900. As Principal Investigator.

PROFESSIONAL ACTIVITIES & REVIEWING

- Program committee member for the following conferences:
 - The 3rd Indian International Conference on Artificial Intelligence (IICAI-07).
 - The First IEEE International Conference on Engineering of Intelligent Systems (ICEIS'2006).
 - The Twenty-First National Conference on Artificial Intelligence (AAAI-06).
 - The IEEE/WIC/ACM International Conference on Intelligent Agent Technology in Year 2006 (IAT-06) and 2007 (IAT-07)
 - The International Joint Conference on Autonomous Agents and Multi-Agent Systems in Year 2003 (AAMAS-03) and 2004 (AAMAS-04).
- Review papers for the following Journals:
 - A special issue on negotiation agent and Grid system in the Multi-agent and Grid Systems Journal (IOS Press, NL), 2006.
 - Journal of Autonomous Agents And Multi-Agent Systems, 2006.

- European Journal of Operational Research, 2003, 2004.
 - Software Practice and Experience Journal, 2004.
 - International Journal of Simulation and Process Modeling (IJSPM), 2003.
 - International Journal of Computers and Applications, 2004.
 - IEEE Transaction on Systems, Man, and Cybernetics, 2004.
- Review papers for the following conferences and workshops:
 - The 2nd Autonomous Agents Workshop on Infrastructure for Agents, MAS, and Large Scale MAS, Wagner/Rana, Montreal, 2001.
 - Session chair for the following conferences:
 - Session: Agent Technologies at the 2006 International Conference on Artificial Intelligence (ICAI'06). Las Vegas, Nevada, June 26-29, 2006.
 - Session: Knowledge Representation II at the Twenty-First National Conference on Artificial Intelligence (AAAI-06), July 16–20, 2006. Boston, Massachusetts.
 - Review proposals for the following funding agency:
 - National Science Foundation (NSF), 2007.
 - Panelist for the *Negotiation in Real-time Systems* Panel at AAAI Fall 2001 Symposium, 2001.

CONFERENCE PRESENTATIONS

a. Works presented

- Paper presentation, *Meta-Level Coordination for Solving Negotiation Chains in Semi-Cooperative Multi-Agent Systems*. In the Sixth International Joint Conference on Autonomous Agents and Multi-Agent Systems. May 14-18 2007. Honolulu, Hawaii.
- Poster presentation, *Developing MAS with Automatic Agent Generation and Dynamic Task Allocation Mechanisms*. In the Sixth International Joint Conference on Autonomous Agents and Multi-Agent Systems. May 14-18 2007. Honolulu, Hawaii's.
- Research presentation, *Using Autonomy, Organizational Design and Negotiation in a Distributed Sensor Network*. Sensor network research group. UMass Dartmouth. Nov 3rd, 2006.
- Paper presentation, *Towards Automated Development of Multi-Agent Systems Using RADE*. In 2006 International Conference on Artificial Intelligence (ICAI-06). June 26-29, 2006. Las Vegas, Nevada, USA.
- Invited talk at UMass Lowell, *Automatic Formation and Analysis of Multiagent Virtual Organization*. May 3rd, 2006.
- Poster presentation, *The Study of Virtual Organizations Using Multi-agent System* at The Fourth International Joint Conference on Autonomous Agents and Multi Agent Systems. (AAMAS 2005), July 25-29, 2005, Utrecht, The Netherlands.
- Research presentation, *The Study of Virtual Organizations Using Multi-agent System*, Fall 2004. CIS Seminar, UMass, Dartmouth.

- Research presentation, *Integrative Negotiation In Complex Organizational Agent Systems*, April 2003, CIS Seminar, UMass, Dartmouth.
- Poster presentation, *Efficient Ordering and Parameterization of Multi-Linked Negotiation*. In the Second International Joint Conference on Autonomous Agents & Multi-Agent Systems (AAMAS 2003), July 2003, Melbourne, Australia.
- Poster presentation, *Multi-Leveled Negotiation Framework*. In the Second International Joint Conference on Autonomous Agents & Multi-Agent Systems (AAMAS 2003), July 2003, Melbourne, Australia.
- Paper presentation, *Multi-Linked Negotiation in Multi-Agent System* In the First International Joint Conference on Autonomous Agents & Multi-Agent Systems (AAMAS 2002), 2002, Bologna, Italy.
- Paper presentation, at AAAI Fall 2001 Symposium on *Negotiation Methods for Autonomous Cooperative Systems*, 2001.
- Paper presentation, *Cooperative, Multi-Step Negotiation Over a Multi-Dimensional Utility Function Multi-Agent Systems Negotiation*, at IASTED International Conference on Artificial Intelligence and Soft Computing (ASC 2000). Banff, Canada, July 2000.
- Paper presentation, *BIG: A Resource-Bounded Information Gathering Agent* at AAAI workshop on Information Integration, 1998.

b. Presentations forthcoming

- Computer and Information Science Seminar presentation, *Generalized Integrated Learning Architecture* (GILA). Spring, 2009.

OTHER PROFESSIONAL ACTIVITIES (include additional information relating to professional activities here)

- Consultant Scientist for DARPA project, *Coordinators*. (Feb. 2005 – August 2006).

MEMBERSHIP IN PROFESSIONAL SOCIETIES (last five years only)

- Member of *American Association for Artificial Intelligence* (AAAI).