

Kang Zhao

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Research Interests

Complex networks, Social computing, Computational social and organizational science, Agent-based systems

Education

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| 2007--Present | The Pennsylvania State University (PSU) , University Park, PA, USA.
Ph.D. in Information Sciences and Technology GPA: 3.91/4.00 |
| 2009 | Carnegie Mellon University , Pittsburgh, PA, USA
Summer Institute in dynamic network analysis and computational modeling. |
| 2004--2006 | Eastern Michigan University (EMU) , Ypsilanti, MI, U.S.A.
M.Sc. in Computer Science GPA: 3.97/4.00 |
| 1999--2003 | Beijing Institute of Technology (BIT) , Beijing, China
B. Eng (with Honor) in Electrical and Information Engineering GPA: 91.5/100 |

Research Experience

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| 08/2007--Present | Graduate Research Assistant
The Intelligent Agent Laboratory, PSU, University Park, PA.
• Advisor: Dr. John Yen.
• Research on agent-based models for coalition formation and coordination in inter-organizational networks.
• Research on the robustness of complex networks. |
| 09/2004--08/2006 | Graduate Research Assistant
Institute for Geospatial Research and Education, EMU, Ypsilanti, MI.
• Advisors: Dr. Matthew Evett and Dr. Yichun Xie.
• Principal researcher and developer of an agent-based model for urbanization.
* Research on local agent decision-makings in dynamic environments.
* Design and implementation of the model with the Repast toolkit.
• Principal researcher and developer of EnDURE model for post-disaster recovery.
* Design and implementation of the multi-agent cellular automata model.
* Research on multi-objective decision makings with genetic algorithms.
* Research on the interactions between micro-level agent behaviors and macro-level policies. |
| 02/2003--07/2004 | Research Assistant
Information System Laboratory, BIT, China.
• Principal developer of digital signal processing system and IF signal simulator.
* DSP programming with C and FPGA programming with AHDL/VHDL.
* Circuit layout and PCB design. |

Other Experience

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| 05/2006--07/2007 | Programmer/Technical Staff
The LinuxBox Corporation, Ann Arbor, MI.
• Design and programming of web applications (mainly with PHP and MySQL).
(Project Management System dotProject and Content Management System Durpal)
• Client requirement analysis. |
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- 05/2005--07/2005 **Academic Tutor**
Holman Learning Center, Eastern Michigan University.
• Tutoring undergraduate students in computer science and math courses.
- 03/2004--07/2004 **Intern**
Motorola (China) Electronics Ltd. Beijing, China.
• Organization and coordination of college campus recruitment fairs.
• Trainings in communication, coordination and teamwork.
- 04/2003--08/2003 **Trainee**
Siemens International Students Circle, Siemens Limited China, Beijing, China.
• Participation in Business Strategy Simulation Contest (TOPSIM).
• Professional trainings in communication, leadership and teamwork.

Publications

Journal Publications

- K. Zhao**, J. Yen, L.-M. Ngamassi, C. Maitland, and A. H. Tapia, "Modeling Emerging Coalitions in the context of Inter-organizational Networks: A Case Study of Humanitarian Coordination," *International Journal of Intelligent Control and Systems Research*, vol. 14, pp. 97-103, 2009.
- Y. Xie, M. Batty, and **K. Zhao**, "Simulating Emergent Urban Form Using Agent-Based Modeling: Desakota in the Suzhou-Wuxian Region in China," *Annals of the Association of American Geographers*, vol. 97, pp. 477-495, 2007.

Conference Publications

- K. Zhao**, A. Kumar, and J. Yen, "Effect of topology on robustness of a supply network-metrics and results," in *The 19th Annual Workshop on Information Technologies and Systems (WITS'09)* Phoenix, Arizona, USA, 2009.
- K. Zhao**, J. Yen, C. Maitland, A. Tapia, and L.-M. N. Tchouakeu, "A Formal Model for Emerging Coalitions under Network Influence in Humanitarian Relief Coordination," in *Proceedings of the Spring Simulation Multi-conference*, San Diego, CA., 2009.
- K. Zhao**, C. Maitland, R. Orendovici, A. Tapia, and J. Yen, "Emergence of Collaborative Projects and Coalitions: a Framework for Coordination in Humanitarian Relief," in *Proceedings of the Second World Congress on Social Simulation (WCSS'08)* Fairfax, VA., 2008.
- A. F. v. Gorp, L.-M. N. Tchouakeu, C. F. Maitland, D. J. Saab, A. Tapia, E. Maldonado, R. Orendovici, and **K. Zhao**, "VSAT Deployment for Post-Disaster Relief and Development: Opportunities and Constraints for Inter-Organizational Coordination among International NGOs," in *Proceedings of the 17th Biennial Conference of the International Telecommunications Society*, Montreal, Canada, 2008.
- K. Zhao** and M. Evett, "CyberLab: an Online Virtual Laboratory Toolkit for Non-programmers," in *Proceedings of the 8th IEEE International Conference on Advanced Learning Technologies (ICALT'08)*, Santander, Cantabria, Spain, 2008, pp. 316-318.
- Y. Xie, T. Wagner, M. Batty, and **K. Zhao**, "Simulating Spatial Consequences of Alternative Strategies for Tsunami Recovery," in *Proceedings of the Fourth International Conference on Geographic Information Science (GIScience'06)*, Schloss Münster, Meunster, Germany, 2006.
- Y. Xie, **K. Zhao**, and T. Wagner, "EnDURE: Environmental Disaster Urban Recovery and Evaluation Model," in *Annual Conference of the North American Association for Computational Social and Organizational Sciences (NAACSOS'06)* Notre Dame, IN, 2006.

October 2009

Y. Xie, M. Batty, and **K. Zhao**, "Simulating an Emergent Urban Form of Desakota in China," in *Proceedings of the Ninth International Conference on Computers in Urban Planning and Urban Management* London, UK, 2005.

Manuscripts under Review

L.-M. Ngamassi, E. Maldonado, **K. Zhao**, H. Robinson, C. Maitland, and A. Tapia, "Exploring Barriers to Coordination between Humanitarian NGOs: A Comparative Case Study of two NGO's Information Technology Coordination Bodies," submitted to *International Journal of Information Systems and Social Change (IJSSC)*, 2009.

Invited Presentations

"Survivability of heterogeneous multi-agent supply networks", presented at the *Complex Systems Advanced Academic Workshop (CSAAW)*, Ann Arbor, MI, 2009.

Academic Activities

- * Panel Chair and Committee Member for the 2009 IST Graduate Symposium.
- * Reviewer for the 5th International Conference on Information Systems for Crisis Response and Management (ISCRAM'08).

Honors and Awards

- * Robert W. Graham Endowed Graduate Fellowship (awarded by PSU IST in 2007)
- * Member of the Honor Society of Phi Kappa Phi (2007).
- * Graduate Student Conference Travel Award (awarded by EMU in 2006)
- * Graduate Achievement Award in Computer Science (awarded by EMU in 2006)
- * Nominee of Ronald W. Collins Medal for scholarly activities (awarded by EMU in 2006)
- * Outstanding College Graduate of Beijing City (awarded by Beijing Municipal Commission of Education in 2003)
- * Outstanding College Graduate of Beijing Institute of Technology (awarded by BIT in 2003)
- * First-class Renmin merit-based fellowship (awarded by BIT for four consecutive years from 1999 to 2003)
- * Third prize in Beijing College Students Electronic Design Contest (awarded by Beijing Municipal Commission of Education in 2002)
- * BIT Top Honor Xu-Teli merit-based Fellowship (awarded by BIT in 2001)
- * Outstanding Student Leader of Beijing Institute of Technology (awarded by BIT in 2001)
- * BIT Technology Progress merit-based Fellowship (awarded by BIT in 2001)
- * Outstanding Student of Beijing Institute of Technology (awarded by BIT 2000)
- * Outstanding High School Student Leader of Tai'an City (awarded by Tai'an Municipal Commission of Education in 1999)

Professional Affiliations

Student member of ACM.

Student member of IEEE.

Member of the North American Assoc. for Computational Social and Organizational Science.

Extracurricular Activities

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| 03/2009--Present | Executive board member/secretary of the Graduate Student Association of IST. |
| 05/2008--05/2009 | Board member of the Penn State Chinese Friendship Association |
| 09/1999--07/2003 | President of class at BIT, China. |
| 03/2002--10/2002 | Member of department debate team at BIT, China. |
| 07/2001--08/2001 | Volunteer of the 21st FISU World University (Universiade) Games at Beijing, China. |
| 09/1999--07/2000 | Editor of campus publications at BIT, China. |
| 09/1997--07/1998 | Vice President of Student Body at Tai'an No.1 High School, China. |

Technical Skills

Software development	Java, C/C++, MFC.
Web development	PHP, HTML, XML, JavaScript, JSP, Java Servlet, Perl, CSS, CGI
Database	MySQL, PostgreSQL, MS Access,
Hardware	DSP, FPGA, ADC, circuit design, PCB design.
Operating systems	Windows, Linux.
Software	MS Visual Studio, Eclipse, NetBeans, Tomcat, Apache, Smarty, Vim, Qt, ArcGIS, Dreamweaver, MaxPlus/Quatus, PowerPADS, TI CCS.

Reference

Available upon requests.