

Curriculum Vitae

Bo Xu

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Education

- Ph.D. in Computer Science, IGERT Computational Transportation Science Program, University of Illinois at Chicago, ABD
- Ph.D. in Computer Science, University of Electronic Science and Technology of China, 1997
- Master in Computer Science, University of Electronic Science and Technology of China, 1994
- Bachelor in Computer Science, Beijing University of Aeronautics and Astronautics, 1991

Research Interests

Mobile/pervasive computing, database systems, intelligent transportation systems

Academic Appointments

- 2004–present: University of Illinois at Chicago, Department of Computer Science, *Research Scientist*
- 1997–2000, 2002–2004: University of Illinois at Chicago, Department of Computer Science, *Postdoctoral Research Associate*
- 1997: University of Electronic Science and Technology of China, *Lecturer*

Industrial Appointments

- 2000–2002: Armillaire Technologies, *Member of Technical Staff, Team Leader*, Chicago, IL

Teaching Experience

- *Database Management Systems*, full-semester course, Spring 2004, Spring 2005, Spring 2006, Spring 2009, Spring 2011, University of Illinois at Chicago, (co-teaching with Professor Ouri Wolfson)
- *Object-oriented Programming*, one-week full-time course, June 1996, IBM, China
- *Computer Network Programming*, full-semester course, Spring 1996, Spring 1997, University of Electronic Science and Technology of China
- *Software Development Environment: UNIX*, full-semester course, Fall 1995, University of Electronic Science and Technology of China
- *C Programming*, one-week full-time course, May 1992, Science and Technology Information Research Institute of Sichuan Province, China

Honors & Awards

- *Best paper award*, “Opportunistic Resource Exchange in Inter-vehicle Ad Hoc Networks”, The Fifth IEEE International Conference on Mobile Data Management Conference (MDM’04), Berkeley, California, Jan. 2004.
- *Keynote Paper*, “Data Management in Mobile Peer-to-Peer Networks”, The Second International Workshop on Databases, Information Systems, and Peer-to-Peer Computing (DBISP2P’04), Toronto, Canada, Aug. 2004.

- *Keynote Paper*, “Data-on-the-Road in Intelligent Transportation Systems”, 2004 IEEE International Conference on Networking, Sensing and Control (ICNSC’04), Taipei, Taiwan, March 2004.
- *Best Team Player*, Armillaire Technologies, 2001.
- *Achievement in Professional Excellence*, IBM Corp., 1996, for teaching “Object-oriented Programming”.
- *Best Software Award (first prize)*, Science and Technology Committee of Sichuan Province, China, 1994.
- *Best Software Award (second prize)*, Science and Technology Committee of Sichuan Province, China, 1996.
- *Teaching Excellence Award*, University of Electronic Science and Technology of China, 1996, for teaching “Computer Network Programming”.
- *MS Thesis Excellence Award*, University of Electronic Science and Technology of China, 1993.
- *Distinguished Ph.D. Student Fellowship Award*, University of Electronic Science and Technology of China, 1994-1997.
- *Distinguished Graduate Student Fellowship Award*, University of Electronic Science and Technology of China, 1991-1994.
- *Distinguished Undergraduate Student Fellowship Award*, Beijing University of Aeronautics and Astronautics, 1987-1990.

Publications

Theses

1. B. Xu. Query Processing in Mobile Peer-to-peer Networks. *Ph.D. thesis*, Department of Computer Science, University of Illinois at Chicago, ABD.
2. B. Xu. Multi-agent based Open Systems Management. *Ph.D. thesis*, School of Computer Science and Engineering, University of Electronic Science and Technology of China, 1997. *

Articles in Refereed Journals

3. O. Wolfson, P. Sistla, B. Xu. The TranQuyl Language for Data Management in Intelligent Transportation. Invited paper, to appear in *Transportation Research Part C*, special issue on Data Management in Vehicular Networks.
4. P. Szczurek, B. Xu, O. Wolfson, J. Lin. Estimating Relevance for the Emergency Electronic Brake Light Application. *IEEE Transactions on Intelligent Transportation Systems*, conditionally accepted.
5. P. Szczurek, B. Xu, J. Lin, O. Wolfson. Spatio-temporal Information Ranking in VANET Applications. *International Journal of Next-Generation Computing*, Vol. 1, No. 1, 2010.
6. B. Xu, O. Wolfson. Flooding by Machine Learning in Mobile Ad Hoc Networks. *ACM Transactions on Adaptive and Autonomous Systems*, Vol. 4, No. 4, November 2009, pp. 1-36.
7. B. Xu, O. Wolfson, S. Chamberlain, N. Rische. Cost Based Data Dissemination in Satellite Networks. *Mobile Networks and Applications*, Vol. 7, No. 1, Kluwer Academic Publishers, 2002, pp. 49-66.
8. M. Zhou, B. Xu. An Algorithm for Region Operation on 2D Complicated PCB Circuit and Irregular Pattern. *Chinese Journal of Advanced Software Research*, Vol. 3, No. 2, 1995, pp. 219-226.
9. B. Xu, P. Xiong, M. Zhou, R. Gao. A Network Management Platform based on Hybrid Monitoring Strategy, *Computer Research and Development*, Vol. 35, No. 12, Dec. 1998, pp. 1101-1106.*
10. B. Xu, P. Xiong, J. Liu, Objected-oriented Technology in OS/2 User Interface, *Computer*

- Applications*, Vol. 16, No. 6, 1996, pp. 3-5.*
11. B. Xu, M. Zhou. An Algorithm for Outline Solution on 2D Complicated PCB Circuit and Irregular Pattern. *Journal of Software*, Vol. 7, Supplement, 1996, pp. 410-414.*
 12. B. Xu, M. Zhou, R. Gao. A Distributed Intelligent NMS with Multiple Fault Management Modes. *Journal of UESTC*, Vol. 25, No. 4, 1996, pp. 424-427.*
 13. B. Xu, M. Zhou. TCP/IP Network Management Technology Research, *Microcomputer*, Vol. 16, No. 1, 1996, pp. 20-23.*
 14. B. Xu, M. Zhou, An Expert System Supported Network Management System, *Microcomputer*, Vol. 16, No. 3, 1996, pp. 1-3.*
 15. B. Xu, M. Zhou, R. Gao, Open Network Management: Concepts and Issues, *Microcomputer*, Vol. 16, No. 2, 1996.*
 16. B. Xu, M. Zhou, J. Liu, Open Network Management: Concept and Implementation, *Telecommunications Science*, Vol. 11, No. 12, 1995, pp. 25-30.*
 17. M. Zhou, B. Xu, An Algorithm for Region Operation on 2D Complicated PCB Circuit and Irregular Pattern, *Journal of Software*, Vol. 6, No. 8, 1995, pp. 473-478.*

Articles in Conference Proceedings (Refereed)

18. D. Ayala, O. Wolfson, J. Lin, B. Xu, B. Dasgupta. Parking Slot Assignment Games. *Proc. of the 19th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM GIS)*, Chicago, IL, Nov. 2011.
19. L. Stenneth, O. Wolfson, P. Yu, B. Xu. Transportation Mode Detection using Mobile Devices and GIS Information. *Proc. of the 19th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM GIS)*, Chicago, IL, Nov. 2011.
20. A. Sistla, O. Wolfson, B. Xu, N. Rishe. Answer-Pairs and Processing of Continuous Nearest-Neighbor Queries. *Proc. of the 7th ACM SIGACT/SIGMOBILE International Workshop on Foundations of Mobile Computing (FOMC)*, San Jose, CA, June 2011.
21. B. Xu, O. Wolfson, H.-J. Cho. Monitoring Neighboring Vehicles for Safety via V2V Communication. *Proc. of the 2011 IEEE International Conference on Vehicular Electronics and Safety (ICVES)*, Beijing, China, July 2011.
22. P. Szczurek, B. Xu, O. Wolfson, J. Lin. Intelligent Transportation Systems: When is Safety Information Relevant? *Proceedings of IEEE International Symposium on a World of Wireless Mobile and Multimedia Networks (WoWMoM)*, Lucca, Italy, June 20-24, 2011
23. B. Xu, O. Wolfson, and J. Lin. Multimedia Data in Hybrid Vehicular Networks. *Proceedings of the 8th International Conference on Advances in Mobile Computing & Multimedia (MOMM)*, Paris, France, Nov. 8-10, 2010.
24. P. Szczurek, B. Xu, J. Lin, O. Wolfson. Prioritizing Travel Time Reports in Peer-to-Peer Traffic Dissemination. *Proceedings of the 2nd International Workshop on Communication Technologies for Vehicles (Nets4Cars)*, Newcastle, UK, July 21-23, 2010.
25. P. Szczurek, B. Xu, J. Lin, O. Wolfson. Machine Learning Approach to Report Prioritization with an Application to Travel Time Dissemination. *Proceedings of the 2nd International Workshop on Computational Transportation Science (IWCTS)*, Seattle, WA, Nov. 3, 2009, pp. 31-36.
26. Bo Xu, Fatemeh Vafae, Ouri Wolfson, In-network Query Processing in Mobile P2P Databases. *Proceedings of the 17th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM GIS)*, Seattle, WA, Nov. 3, 2009, pp. 207-216.
27. O. Wolfson, B. Xu, H. Cho. Multimedia Traffic Information in Vehicular Networks. *Proceedings of the 17th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM GIS)*, Seattle, WA, Nov. 4-6, 2009, pp. 480-483.
28. X. Zhu, B. Xu, O. Wolfson. Spatial Queries in Disconnected Mobile Networks. *Proceedings of*

* Publications written in Chinese.

- the 16th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM GIS)*, Irvine, CA, Nov. 2008, pp. 337-346.
29. T. Zhong, B. Xu, P. Szczurek, O. Wolfson. TRAFFICINFO: An Algorithm for VANET Dissemination of Real-time Traffic Information. *Proceedings of the 15th World Congress on Intelligent Transportation Systems (WCITS)*, New York, NY, Nov. 2008.
 30. Y. Luo, O. Wolfson, B. Xu. Mobile Local Search via P2P Databases. *Proceedings of Portable 2008: the 2nd IEEE International Interdisciplinary Intersociety Conference on Portable Information Devices (PIDs)*, Garmisch-Partenkirchen, Germany, Aug. 2008, pp. 1-6.
 31. T. Zhong, B. Xu, O. Wolfson. Disseminating Real-Time Traffic Information in Vehicular Ad-Hoc Networks”, accepted for publication and plenary presentation, *Proceedings of the IEEE Intelligent Vehicles Symposium*, Eindhoven, The Netherlands, June, 2008, pp. 1056-1061 (plenary presentation acceptance rate is 10%).
 32. Y. Luo, O. Wolfson, and B. Xu. The Role of Auto-ID Technologies in Mobile Databases for E-Commerce. *Proceedings of the International Workshop on RFID Data Management*, Cancun, Mexico, Apr. 2008, pp. 108-109.
 33. Bo Xu, Ouri Wolfson, Channah Naiman, Naphtali D. Rishé, and R. Michael Tanner. A Feasibility Study on Disseminating Spatio-temporal Information via Vehicular Ad-hoc Networks. *Proceedings of the Third International Workshop on Vehicle-to-Vehicle Communications (V2VCOM)*, Istanbul, Turkey, June 2007.
 34. Ouri Wolfson and Bo Xu. Mobile Peer-to-peer Data Dissemination with Resource Constraints. *Proceedings of the 8th International Conference on Mobile Data Management*, Mannheim, Germany, May 2007, pp. 16-23.
 35. Yan Luo, Ouri Wolfson and Bo Xu. A Spatial-Temporal Approach for Selective Data Dissemination in Mobile Peer-to-peer Networks. *Proc. of the Third International Conference on Wireless and Mobile Communications (ICWMC)*, Guadeloupe, French Caribbean, Mar. 4-9, 2007.
 36. Ouri Wolfson, Bo Xu, Huabei Yin and Hu Cao. Search-and-Discover in Mobile P2P Network Databases. *Proceedings of IEEE 26th International Conference on Distributed Computing Systems (ICDCS)*, Lisboa, Portugal, July 2006.
 37. Ouri Wolfson, Bo Xu, Huabei Yin and Hu Cao. Searching Local Information in Mobile Databases (Poster Paper). In *Proceedings of the 22nd International Conference on Data Engineering (ICDE)*, Atlanta, Georgia, USA, April, 2006.
 38. Bo Xu, Ouri Wolfson. Benefit and Pricing of Spatio-temporal Information in Mobile Peer-to-Peer Networks, *Proc. of Hawaii International Conference on System Sciences (HICSS-39)*, Kauai, Hawaii, Jan. 4-7, 2006.
 39. Ouri Wolfson, Bo Xu, Huabei Yin and Naphtali Rishé. Resource Discovery using Spatio-Temporal Information in Mobile Ad-Hoc Networks. *Proceedings of the Fifth International Workshop on Web and Wireless Geographical Information Systems (W2GIS)*, Lausanne, Switzerland, December 15-16, 2005.
 40. O. Wolfson, B. Xu, H. Yin. Reducing Resource Discovery Time by Spatio-Temporal Information in Vehicular Ad-Hoc Networks. *Proceedings of the 2nd ACM International Workshop on Vehicular Ad Hoc Networks (VANET'05)*, Cologne, Germany, Sept. 2005.
 41. P. Sistla, O. Wolfson, B. Xu. Opportunistic Data Dissemination in Mobile Peer-to-Peer Networks. *Springer Verlag Lecture Notes in Computer Science, Proceedings of the 9th International Symposium on Spatial and Temporal Database (SSTD'05)*, Angra dos Reis, Brazil, Aug., 2005.
 42. B. Xu and O. Wolfson. Privacy Solutions by Mobile Peer-to-Peer Communication, *Online Proceedings of Center for Intellectual Property Law & Info. Tech (CIPLIT)*, Chicago, Illinois, October 14-15, 2004, http://facweb.cs.depaul.edu/research/vc/CIPLIT2004/papers.htm#s2_p5.
 43. B. Xu, O. Wolfson. Data Management in Mobile Peer-to-Peer Networks, *Springer Verlag*

Lecture Notes in Computer Science, Vol. 3367, Proceedings of the 2nd International Workshop on Databases, Information Systems, and Peer-to-Peer Computing (DBISP2P'04), Toronto, Canada, August 29-30, 2004, pp. 1-15.

44. O. Wolfson, B. Xu, Y. Yin. Dissemination of Spatial-Temporal Information in Mobile Networks with Hotspots, *Springer Verlag Lecture Notes in Computer Science, Vol. 3367, Proceedings of the Second International Workshop On Databases, Information Systems and Peer-to-Peer Computing (DBISP2P'04)*, Toronto, Canada, August 29-30, 2004, pp. 185-199.
45. O. Wolfson, B. Xu. Opportunistic Dissemination of Spatio-Temporal Resource Information in Mobile Peer-to-Peer Networks, *1st International Workshop on P2P Data Management, Security and Trust (PDMST'04)*, Zaragoza, Spain, Sept. 2004, pp. 954-958.
46. O. Wolfson, B. Xu, P. Sistla. An Economic Model for Resource Exchange in Mobile Peer-to-Peer Networks, *Proceedings of the 16th International Conference on Scientific and Statistical Database Management (SSDBM'04)*, Santorini Island, Greece, June 2004, pp. 235-244.
47. B. Xu, A. Ouksel, O. Wolfson. Opportunistic Resource Exchange in Inter-vehicle Ad Hoc Networks, *Proc. of 2004 IEEE International Conference on Mobile Data Management (MDM'04)*, Berkeley, California, Jan. 2004, pp. 4-12. Best Paper Award.
48. O. Wolfson, B. Xu. Data-on-the-Road in Intelligent Transportation Systems, *Proc. of 2004 IEEE International Conference on Networking, Sensing and Control (ICNSC)*, Taipei, Taiwan, March 2004.
49. J. Dillenburg, P. Nelson, O. Wolfson, O. Yu, P. Sistla, S. McNeil, A. Ouksel, B. Xu, and J. Ben-Arie. Applications of a Transportation Information Architecture, *Proc. of 2004 IEEE International Conference on Networking, Sensing and Control (ICNSC'04)*, Taipei, Taiwan, March 2004.
50. O. Wolfson, A. Ouksel, B. Xu. Resource Discovery in Disconnected Mobile Ad-Hoc Networks, *Proc. of the International Workshop on Next Generation Geospatial Information*, Cambridge, MA, Oct. 2003.
51. B. Xu, O. Wolfson. Time-Series Prediction with Applications to Traffic and Moving Objects Databases, *Proceedings of the Third International ACM Workshop on Data Engineering for Wireless and Mobile Access (MobiDE'03)*, San Diego, California, Sept. 2003, pp. 56-60.
52. B. Xu, O. Wolfson, S. Chamberlain. Spatially Distributed Databases on Sensors, *Proceedings of The 8th ACM Symposium on Advances in Geographic Information Systems*, Washington DC, November 10-11, 2000, pp. 153-160.
53. B. Xu, O. Wolfson, S. Chamberlain, Cost Based Data Dissemination in Broadcast Networks, *Springer Verlag Lecture Notes in Computer Science, number 1973, Proceedings of 8th International Conference on Database Theory (ICDT01)*, London, UK, January, 2001, pp. 114-128.
54. G. Trajcevski, O. Wolfson, B. Xu and P. Nelson. Real-Time Traffic Updates in Moving Objects Databases, *Proc. of the 5th International Workshop on Mobility in Databases and Distributed Systems*, Aix-en-Provence, France, Sept. 2-6, 2002, pp.698-702.
55. G. Trajcevski, O. Wolfson, and B. Xu. Research Directions in Moving Objects Databases, *Proceedings of the First International Conference on Geographic Information Science*, Savannah, GA, Oct. 2000, pp. 206-207
56. O. Wolfson, B. Xu, S. Chamberlain. Location Prediction and Queries for Tracking Moving Objects, (demo paper), *Proceedings of the 16th International Conference on Data Engineering (ICDE2000)*, San Diego, CA, Feb. 2000, pp. 687-688.
57. O. Wolfson, P. Sistla, B. Xu, J. Zhou. DOMINO: Databases fOr MovINg Objects tracking, (demo paper), *Proceedings of the 1999 ACM SIGMOD International Conference on Management of Data*, Philadelphia, PA, June 1-3. 1999, pp. 547-549.
58. O. Wolfson, A. Lelescu, B. Xu. Retrieval of Collaborative Work from Multimedia Databases Using Relevance Feedback, *Proceedings of Spire'99, 6th International Symposium on String*

Processing and Information Retrieval, Cancun, Mexico, Sept. 1999, IEEE CS Press, pp. 215-223.

59. O. Wolfson P. Sistla, B. Xu, J. Zhou. Tracking Moving Objects Using Database Technology in DOMINO, *Springer-Verlag Lecture Notes in Computer Science, number 1649, Proceedings of The Fourth Workshop on Next Generation Information Technologies and Systems (NGITS)*, Zikhron-Yaakov, Israel, July 1999, pp. 112-119.
60. O. Wolfson, B. Xu, S. Chamberlain, L. Jiang. Challenges and Approaches in Motion Databases, *Proceedings of the 14th International Conference on Advanced Science and Technology (ICAST98)*, Naperville, IL, Apr. 1998, pp. 198-294.
61. O. Wolfson, B. Xu, S. Chamberlain, L. Jiang. Moving Objects Databases: Issues and Solutions, *Proceedings of the 10th International Conference on Scientific and Statistical Database Management (SSDBM98)*, Capri (Italy), July 1-3, 1998, pp. 111-122.
62. B. Xu, M. Zhou. An Integrated PCB CAD/CAM System, *The 3rd National Conference on Computer Applications*, Beijing, China, 1995, pp. 186-189.*
63. B. Xu, M. Zhou. A Distributed Intelligent NMS with Multiple Fault Management Modes. *Proceedings of the First International Conference on Electronics and Information Technology (ICEIT)*, Beijing, China, August 1994, pp. 287-293.
64. M. Zhou, B. Xu. Researches on Interoperability and Co-operability for Heterogeneous Distributed Network, *Proceedings of the First International Conference on Electronics and Information Technology (ICEIT)*, Beijing, China, August 1994, pp. 400-405.

Articles in Conference Proceedings (Non-refereed)

65. O. Wolfson and B. Xu. Spatio-temporal Information in Intelligent Transportation Systems. *Proceedings of the Workshop on Research Directions in Situational-aware Self-managed Proactive Computing in Wireless Adhoc Networks*, Kansas City, MO, May 2010.
66. B. Xu, M. Linderman, S. Madria, and O. Wolfson. A Tactical Information Management Middleware for Resource-constrained Mobile P2P Networks. *Proceedings of the 29th IEEE International Symposium on Reliable Distributed Systems (SRDS)*, New Delhi, India, Oct. 31-Nov. 3, 2010.

Sections in Books and Bulletins

67. Hu Cao, Ouri Wolfson, Bo Xu and Huabei Yin. MOBI-DIC: MOBIle DIsccovery of loCal Resources in Peer-to-Peer Wireless Network. *IEEE Data Engineering Bulletin*, Vol. 28, No. 3, Issue on Database Issues for Location Data Management, Sept. 2005, pp. 11-18.
68. Y. Luo, O. Wolfson, B. Xu. The MOBI-DIK Approach to Searching in Mobile Ad Hoc Network Databases, chapter in the book "Handbook of Peer-to-Peer Networking", X. Shen, H. Yu, J. Buford, M. Akon (eds.), Springer, 2009.
69. O. Wolfson and B. Xu. Spatio-temporal Databases in Urban Transportation. *Bulletin of the IEEE Computer Society Technical Committee on Data Engineering*, Vol. 33, No. 2, Issue on New Frontiers in Spatial and Spatio-temporal Database Systems, June 2010, pp. 18-25.

Patent

O. Wolfson, B. Xu, Adaptive Search in Mobile Peer-to-peer Databases, US Patent number 7,849,139, issued December 2010.

Research Grants

- National Science Foundation Grant 0847680, O. Wolfson (PI), B. Xu (Co-PI), SGER: Feasibility of Decentralized Search in Mobile P2P Databases, \$100,000, 9/08-8/09.
- National Science Foundation Grant OII-0611017, O. Wolfson (PI), B. Xu (Research Institute PI), STTR Phase I; Feasibility of Mobile Peer-to-Peer Search on Hand-held Devices, \$99,982,

- 7/06-6/07 (12% success rate).
- NASA STTR Award NNA06AA25C, O. Wolfson (PI), B. Xu (Research Institute PI), MOBI-DIC: MOBILE Dissemination of loCal information in Peer-to-Peer Wireless Networks, \$99,940, 1/06-1/07 (15% success rate).
- National Science Foundation Grant ITR-0086144, Ouri Wolfson (PI), Bo Xu (Co-PI), ITR: Real-time Capture, Management and Reconstruction of Spatio-Temporal Events, \$673,837, 9/00-9/04. This ITR project is in collaboration with UCLA, University of Maryland, and UC Irvine, and \$673K is UIC's share.

Oral Presentations

- “Continuous k-Nearest Neighbor Queries”, *UIC CTS-IGERT Seminar*, July 29, 2011.
- “Monitoring Neighboring Vehicles for Safety via V2V Communication”, *2011 IEEE International Conference on Vehicular Electronics and Safety (ICVES)*, Beijing, China, July 10-12, 2011.
- “Continuous Nearest-Neighbor Queries with Location Uncertainty”, *UIC CTS-IGERT Seminar*, February 25, 2011.
- “Disseminating and Querying Multimedia Traffic Information via Vehicular Ad Hoc Networks”, *UIC CTS-IGERT Seminar*, June 7, 2010.
- “Computational Transportation Science”, *IGERT 2010 Project Meeting*, Washington, D.C., May 24, 2010.
- “Mobile Peer-to-peer Databases and Incentives for Participation”, *Dagstuhl Seminar 10121 on Computational Transportation Science*, Dagstuhl, Germany, March 26-31, 2010.
- “Multimedia Traffic Information in Vehicular Networks”, *17th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM GIS)*, Seattle, WA, November 4-6, 2009.
- “In-network Query Processing in Mobile P2P Databases”, *17th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM GIS)*, Seattle, WA, November 4-6, 2009.
- “Query Processing in Mobile Peer-to-peer Databases”, *UIC CTS-IGERT Seminar*, June 18, 2009.
- “Commercial Activities in Personalized Traveler Information”, *UIC CTS-IGERT Seminar*, August 27, 2008.
- “The Role of Auto-ID Technologies in Mobile Databases for E-Commerce”, *International Workshop on RFID Data Management*, Cancun, Mexico, April 7, 2008.
- “Progress and Plans for Intelligent Traveler Assistant Development”, *UIC CTS-IGERT Seminar*, January 28, 2008.
- “Mobile P2P Database: A Search Engine for the Ubiquitous Age”, *University of Electronic Science and Technology of China*, September 20, 2007.
- “A Preliminary Proposal of an ITA Demo System”, *UIC CTS-IGERT Seminar*, September 13, 2007.
- “Benefit and Pricing of Spatio-temporal Information in Mobile Peer-to-Peer Networks”, *Hawaii International Conference on System Sciences (HICSS-39)*, Kauai, Hawaii, Jan. 4-7, 2006.
- “Opportunistic Resource Exchange in Inter-vehicle Ad Hoc Networks”, *5th IEEE International Conference on Mobile Data Management (MDM'04)*, Berkeley, California, January 19-22, 2004. Best Paper Award.
- “Time-Series Prediction with Applications to Traffic and Moving Objects Databases”, *Third International ACM Workshop on Data Engineering for Wireless and Mobile Access (MobiDE'03)*, San Diego, California, September 19, 2003.

- “Spatially Distributed Databases on Sensors”, *8th ACM Symposium on Advances in Geographic Information Systems*, Washington DC, November 10-11, 2000.
- “Location Prediction and Queries for Tracking Moving Objects”, demo presentation, *16th International Conference on Data Engineering (ICDE2000)*, San Diego, CA, February 28 - March 3, 2000.
- “DOMINO: Databases fOr MovINg Objects tracking”, demo presentation, *1999 ACM SIGMOD International Conference on Management of Data*, Philadelphia, PA, June 1-3. 1999.

Software Systems Developed

- MOBI-DIK – A mobile peer-to-peer database for local search. MOBI-DIK development was funded by NASA and NSF.
- DOMINO – Databases fOr MovINg Objects tracking. DOMINO adds temporal, uncertainty management, and simulation capabilities to a database management system, for tracking the location of vehicles and aircraft. The system was invited for demonstration at the ACM-SIGMOD’99, NGITS’99, and ICDE’01 conferences.
- LAN Management System – This SNMP-based network management system provides topology discovery, management information viewing, remote station controlling, and event monitoring.
- LAN Messenger System – This system provides a network messaging function for sending messages to and receiving messages from other users on a TCP/IP network.
- PCB CAD/CAM – Eliminating photo-plotting and etching which are required in normal PCB process and are usually handled by a subcontractor, this system allows the production of PCB prototype in hours instead of days, and thus helps shorten time-to-market.

Professional Activities

- Program Vice Chair, First International Workshop on Knowledge and Data Engineering in Web-based Learning, December 8-10, 2010, Shanghai, China

Member of the program committee for the following conferences:

- Second International Workshop on Mobile P2P Network, June 28 – July 2, 2010, Gaen, France
- 2009 Mobile P2P Workshop, June 21-24, 2009, Leipzig, Germany
- Second International Workshop on Computational Transportation Science, November 3, 2009, Seattle, USA
- First International Workshop on Computational Transportation Science, July 21, 2008, Trinity College Dublin, Ireland

Referee for the following Journals:

- IEEE Transactions on Intelligent Transportation Systems
- IEEE Transactions on Vehicular Technology
- IEEE Transaction on Knowledge and Data Engineering
- IEEE Transaction on Parallel and Distributed Systems
- IEEE Transactions on Systems, Man, and Cybernetics
- GeoInformatica
- Journal of High Speed Networking
- Wireless Networks
- Information Sciences
- International Journal of Autonomous and Adaptive Communications Systems

- Transportation Research Part C

Referee for the following conferences:

- ACMGIS'11, 19th International Conference on Advances in Geographic Information Systems, November 1-4 2011, Chicago, Illinois.
- SSTD'11, 12th International Symposium on Spatial and Temporal Databases, August 24-26, 2011, Minneapolis, MN, USA.
- MDM'11, 12th International Conference on Mobile Data Management, Lulea, Sweden, June 6-9, 2011.
- ICDE'11, 27th IEEE International Conference on Data Engineering, April 11-16, 2011, Hannover, Germany.
- VLDB'10, 36th International Conference on Very Large Data Bases, September 13-17, 2010, Singapore.
- ICDE'10, 26th IEEE International Conference on Data Engineering, March 1-6, 2010, Long Beach, California, USA.
- MDM'09, 10th IEEE International Conference on Mobile Data Management, May 18-20, Taipei, Taiwan.
- ICDE'09, 25th IEEE International Conference on Data Engineering, March 29 – April 2, 2009, Shanghai, China.
- ACM-GIS'08, 16th ACM International Symposium on Advances in Geographic Information Systems, November 5-7, 2008, Irvine, CA, USA.
- MDM'08, 9th IEEE International Conference on Mobile Data Management, April 27-30, 2008, Beijing, China.
- SIGMOD'08, ACM International Conference on Management of Data, June 10-12, 2008, Vancouver, Canada.
- ACM-GIS'07, 15th ACM International Symposium on Advances in Geographic Information Systems, November 7-9, 2007, Seattle, Washington, USA.
- MDM'07, 8th IEEE International Conference on Mobile Data Management, May 7-11, 2007, Mannheim, Germany.
- ACM-GIS'06, 14th ACM International Symposium on Advances in Geographic Information Systems, November 10-11, 2006, Arlington, VA, USA.
- VLDB'05, 31st International Conference on Very Large Databases, August 30 – September 2, 2005, Trondheim, Norway.
- SSTD'05, 9th International Symposium on Spatial and Temporal Databases, August 22-24, 2005, Angra dos Reis, Brazil.
- SIGMOD'05, ACM International Conference on Management of Data, June 13-16, 2005, Baltimore, Maryland, USA.
- ICDE'05, 21th IEEE International Conference on Data Engineering, April 5-8, Tokyo, Japan.
- ICDE'04, 20th IEEE International Conference on Data Engineering, March 30 – April 2, 2004, Boston, MA, USA.
- ICDCS'04, 24th International Conference on Distributed Computing Systems, March 24-26, 2004, Hachioji, Tokyo.
- DASFAA'04, 9th International Conference on Database Systems for Advanced Applications, March 17-19, Jeju Island, Korea.
- International Workshop on Pervasive Information Systems, March, 2004, Heraklion, Crete, Greece.
- MDM'04, 5th IEEE International Conference on Mobile Data Management, January 19-22, 2004, Berkeley, CA, USA.
- MobiDE'03, Third ACM International Workshop on Data Engineering for Wireless and

- Mobile Access, September 19, 2003, San Diego, CA, USA.
- VLDB'03, 29th International Conference on Very Large Databases, September 9-12, 2003, Berlin, Germany.
- MDM'03, 4th IEEE International Conference on Mobile Data Management, January 21-24, 2003, Melbourne, Australia.
- CIKM'02, 11th ACM International Conference on Knowledge and Data Engineering, November 4-9, 2002, McLean, VA, USA.
- GIScience'02, Second International Conference on Geographic Information Science, September 25-28, 2002, Boulder, CO, USA.
- MDDS'02, 5th International Workshop on Mobility in Databases & Distributed Systems, September 2-6, 2002, Aix-en-Provence, France.
- VLDB'02, 28th International Conference on Very Large Databases, August 20-23, 2002, Hong Kong, China.
- ACM-GIS'00, 8th ACM International Symposium on Advances in Geographic Information Systems, November 10-11, 2000, Washington D.C., USA.
- VLDB'00, 26th International Conference on Very Large Databases, September 10-14, 2000, Cairo, Egypt.
- ASDM'00, International Workshop on Advanced Spatial Database Management, September 6-7, Greenwich, UK, 2000.
- TeleGeo'00, Second International Workshop on Telegeoprocessing, May 10-12, Nice-Sophia-Antipolis, France.
- WNMC'00, Workshop on Wireless Networks and Mobile Computing in conjunction with The 20th International Conference on Distributed Computing Systems, April 2000, Taipei, Taiwan.
- ACM-GIS'99, 7th ACM International Symposium on Advances in Geographic Information Systems, November 2-6, 1999, Kansas City, USA.
- STDBM'99, International Workshop on Spatio-Temporal Database Management, September 10-11, 1999, Edinburgh, Scotland.
- MobiDE'99, ACM International Workshop on Data Engineering for Wireless and Mobile Access, August 20, 1999, Seattle, WA, USA.
- MDDS'99, Second International Workshop on Mobility in Databases & Distributed Systems, August, 1999, Florence, Italy
- SSD'99, 6th International Symposium on Spatial Databases, July 20-23, 1999, Hong Kong, China.
- NGITS'99, 4th International Workshop on Next Generation Information Technologies and Systems, July 5-7, 1999, Zikhron-Yaakov, Israel.
- TeleGeo'99, First International Workshop on Telegeoprocessing, May 6-7, Lyon, France.
- SIGMOD'99, ACM International Conference on Management of Data, June 1-3, 1999, Philadelphia, Pennsylvania, USA.

Professional Certificates

- CISCO Certified Network Associate
- IBM Certified Specialist AIX V4.1 System Administration
- IBM Certified VisualAge for Smalltalk Associate Developer
- Novell Education Certificate: UNIX OS Fundamentals for NetWare Users, UnixWare Installation and Configuration, UnixWare System Administration, UnixWare Advanced System Administration, NetWare NFS, NetWare TCP/IP