Qingfeng Huang, Ph.D. – CV

Voice: (408) 219-3562 *Email:* Q@QHUANG.com

SUMMARY

SOME HIGHLIGHTS:
- 5+ years of medical device startup experience
- 10+ years of R&D experience
- 40+ patents (granted and pending).
- 40+ peer-reviewed science and engineering publications
- Lead design and implementation on multiple platforms as a chief/global software architect and engineering lead. (Embedded system, Android, iOS, Windows, DB-driven web app, etc)
- Extensive data analysis and trouble-shooting experience
- Awarded DARPA LANdroid grant(Co-PI), 2008, our team won Phase I and advanced to II, 2009
- PARC Outstanding Performance Award, 2007
– "Most Patent Filed in 2006" Award, PARC/CSL
- Best of Yahoo! Messenger hack award at the first Yahoo! Open Hack Day, 2006
- Served as the innovation/invention lead ("wacky idea czar") in the CSL/PARC, 2006
- Best Dealer Award, PARC/CSL, 2006
- PARC Team Excellence Award, 2006 (ITS team)
- Most Patent Filed Award in CSL, PARC, 2005

CAREER TIMELINE:
- ChinaMobile, US Research Center, **Senior Scientist**, 2013-present ;
- C8 MediSensors, (Startup), **Global/Chief Software Architect**, 2008-2013;
- Xerox PARC, (R&D), **Research Scientist**, 2003-2008 ;
- Ford Research Lab, Intelligent Transportation, *Intern*, 2001, 2002

EDUCATION BACKGROUND: Physics + Computer Science + Mathematics

AREAS of PUBLICATION and INVENTION:
- Software engineering;
- Wireless sensor actuator networks;
- Intelligent transportation system;
- Information driven services;
- Neuroscience;
- Robotics;
- Medical Device;
- Distributed computing;
- Advertising;
- Ubiquitous computing;
- Social computing&networking;
- Quantum physics;
- Mobile computing;
- Consumer Electronics

OTHER R&D INTERESTS: AI; automatic knowledge discovery, harvesting, and generation; data mining; search; network theory; game theory; real-time systems; computational economics, sociology, and biology; computational geometry; computational finance; anything that has potential of advancing the understanding of complex phenomena

Languages spoken besides English and Chinese: Java, PHP, Javascript, C, C++, Qt, C#, Perl, Python, Matlab, Ruby, Objective-C, TclTk, ...

Education

Washington University in St. Louis, Missouri, USA

D.Sc. *Computer Science*, August, 2003

- Dissertation Topic: "Spatiotemporal Multicast and Partitionable Group Membership Service"
- Advisor: Gruia-Catalin Roman & Chenyang Lu

M.Sc. *Computer Science*, August 2001
A.M. *Physics*, May 1998
Ph.D. Candidate, *Physics*, since 1996, GPA 4/4 (aborted 1999 for computer science)

Fudan University, Shanghai, China

M.Sc. Physics, May 1995

- Thesis title:: "Effects of Quantum Fluctuation in One-Dimensional Systems"
- Advisor: Xin Sun

B.A. Physics, May 1992

Honors and Awards

Recent ones:

- Core member of a techinical team that created the world's most advanced portable non-invasive continuous glucose monitor
- LANdroid Grant, DARPA, 2008, our team won Phase I and advanced to phase II in 2009
- Outstanding Performance Award, PARC, 2007
- Invited talk at LOCALGOS 2007
- Award for "Most Patents Filed in 2006" CSL/PARC.
- Best of Yahoo! Messenger hack award at the first Yahoo! Open Hack Day, 2006
- Serving as the "wacky idea czar" (innovation facilitator) in the Computing Science Lab (CSL) at (Xerox) PARC.
- Best Dealer Award, PARC/CSL, 2006
- PARC Team Excellence Award, 2006 (ITS team)
- Award for "Most Patents Filed in 2005" in CSL/PARC.

Ancient ones:

- Team Bronze Medal, National Math Competition (Olympiad) Final, China, (1988).
- Silver Medal, National Math Competition, China (1987)

Professional Experience

ChinaMobile, US Research Center, Milpitas, California, USA

Senior Scientist **April, 2013 - present**

In charge of R&D and business development in the IoE (Internet of Everything) space, with a focus on m2m and mHealth areas. Recently took up the responsibility in education cloud, connected cars and enterprise solutions space as well.

C8 MediSensors Inc, Los Gatos, California, USA

MTS, Chief Software Architect/Engineer **Oct, 2008 - April,2013**

Research and development of world's first truely non-invasive and portable continuous glucose monitor.

- Bootstrapped and managed all in-house software development (R&D, clinical, manufacturing) for the medical device;
- Analyzed TeraByte scale spectrometer data, including multilevel anomaly detection, device calibration, PCA and regression, and classification.

- Bridged all technical groups by being in the junction of physics, data analysis, and software.

Xerox PARC, Palo Alto, California, USA

Research Scientist **Sept, 2003 - Nov,2008**

Research and development in distributed systems, robotics, sensor networks, ad hoc networks, intelligent transportation system networks, and social computing, resulted in 20+ peer-reviewed publications and 30+ patents.

Ford Research Lab, Dearborn, Michigan, USA

Summer research intern **6/2001 - 9/2001, 6/2002 - 9/2002**

Designed and programmed an inter-vehicle communication bridge; Designed and developed a cooperative V2V collision warning system. Part of the work was demonstrated in the 9th World Congress of Intelligent Transport System in Chicago, October 2002, with 4 peer reviewed papers.

Projects

I have been working on the following projects

- **Non-invasive Glucose Monitor** An effort to build the world's first portable non-invasive glucose monitor to improve the quality of life for diabetic patients. As an early employee of the startup juggled many differnt hats, initatied, bootstrapped, and managed design and development all in-house software, crossing multiple platforms, from embedded systems to mobile clients, from clinical data collection system to medical device manufacturing calibration and quality tracking system. Also a key contributor to data analysis and algorithm development effort, and as a key trouble shooter with insights from physics, software, and algorithms.
- **LANdroid** Co-PI. DARPA Grant recently awarded for work an agile distributed communication system, imagine a group of communication robots move into their best position for the mesh network to get the best performance. This investigation tackles a fundamental limitation in the physical layer of mobile wireless communication. Our team is one of the two teams (out of five) won the Phase I competition and advanced to phase II.
- **HealthFriendFinder** Lead-investigator. Xerox-PARC project. Research and prototype an extensible peer-to-peer social emotional and informational support system for patients and healthcare givers. A key insight is communication bandwidth and support quality maybe improved by concern higher relevancy among patients and care givers.
- **Magitti** Technical contributor. A PARC-DNP project. Building a mobile gadgets catering to leisure activities. My contributions include initial product concept, porting a context extraction engine from Perl to Java, and designing and carrying out user evaluation of recommendation algorithms for Magitti.
- **HALO** Supervisor. The goal is to enable ubiquitous brain-state aware computing by using simple and un-intrusive brain-wave detectors. Involves architecture design, algorithm development, testing and evaluation. Resulted in two inventions.
- **Fubits** Technical contributor. A Fujitsu-PARC ITS project. Design and development of a set of efficient vehicle-to-vehicle information dissemination protocols. Key contributions include a novel information dissemination protocol and acting as a quality controller (bug hunter) of the prototype.
- **"WackyIdeas"** Lead. A PARC/CSL effort to boost innovation spirit. I was appointed as the "wackyidea czar" to motivate, organize and facilitate brainstorming activities.
- **Mobile Advertising** Lead investigator. An effort to explore novel advertising opportunities in the mobility space. Resulted in four patent applications in the mobile advertising space in 2004.
- **Distributed Attention** Technical contributor. Project explores intelligent resource allocation and targeting under limited sensing resources. Testbed was a multi-camera network with pantile capabilities.

- **NEST** A DARPA project. I was a technical contributor, developed a subset of localization and networking protocols.
- **Ford ITS** A Ford Research Lab project. Lead investigator of an vehicle peer-to-peer intersection collision warning system; also invented a novel intersection traffic-light-to-vehicle communication system.
- **LIME** An NSF mobile computing project. Contributed a key group membership maintenance protocol for achieving state consistency when distributed data spaces are forced to merge or split due to mobility.

SELECTED PUBLICATIONS

[*25 Conference papers* (3 SenSys, 2 ICSE, 2 MobiHoc, 2 ICDCS, 2 ITSA, 2 CCNC, 1 INFOCOM, 1 IPSN, 1 RTSS, 1 SECON, 1 DCOSS, 1 ITSC, 1 VTC, 1 FMPPTA, 1 EMNetS, 1 MILCOM, 1 PCAC, 1 UMAP);
20 Academic Journal papers (10 on Engineering, 1 on NeuroComputing, 8 on Physics), 1 Ford Research Journal paper;]

Wireless Communication, Sensing, and Localization

1. "Mobility-assisted Spatiotemporal Detection in Wireless Sensor Networks", G. Xing, J. Wang, Z. Yuan, R. Tan, L. Sun, **Q. Huang**, X. Jia, and H.C. So, IEEE Transactions on Parallel and Distributed Systems, vol. 21, no. 12, pp. 1851-1866, December 2010..
2. "Mobility-assisted Spatiotemporal Detection in Wireless Sensor Networks", G. Xing, J. Wang, K. Shen, **Q. Huang**, X. Jia, and H.C. So, in ICDCS 2008, Beijing, China.
3. "Distributed Minimal Time Convergecast Scheduling for Small and Sparse Data Sources", Y. zhang, S. Gandham and **Q. Huang**, in the Proceedings of the 28th IEEE Real-Time Systems Symposium, Dec 3-6, 2007, Tucson, Arizona
4. "Distributed Time-Optimal Scheduling for Convergecast in Wireless Sensor Networks", S. Gandham, Y. zhang and **Q. Huang**, Journal of Computer Networks, Elsevier Publishers, 2008
5. "SDIP^3: Structured and Dynamic Information Push and Pull Protocols for Distributed Sensor Networks", Y. Zhang and **Q. Huang**, in the Proceedings of the International Conference on Distributed Computing in Sensor Systems(DCOSS), 2007
6. "Dynamic Balancing of Push and Pull in a Distributed Traffic Information System", **Q. Huang** and Y. Zhang, in the Proceedings of the IEEE Consumer Communications and Networking Conference (CCNC), special session, 2007, Las Vegas, Nevada.
7. "Minimum Power Configuration for Wireless Communication in Sensor Networks", G. Xing, C. Lu, Y. Zhang, **Q. Huang**, and R. Pless, ACM Transactions on Sensor Networks, 2007.
8. "Balancing Push and Pull for Efficient Information Discovery in Large-Scale Sensor Networks", X. Liu, **Q. Huang**, Y. Zhang, IEEE Transactions on Mobile Computing, Vol.6, No.3, pp.241-251, 2007
9. "A Learning-based Adaptive Routing Tree for Wireless Sensor Networks", Y. Zhang and **Q. Huang**, Journal of Communications, Vol.1, No.2, pp.12-21 Academy Publisher, 2006
10. "Distributed Minimal Time Convergecast Scheduling in Wireless Sensor Networks", S. Gandham, Y. zhang and **Q. Huang**, in the Proceedings of the 26th International Conference on Distributed Computing Systems (ICDCS), July 4-7, 2006, Lisboa, Portugal (*Acceptance ratio:* 1/7)
11. "Sequential Localization Algorithm for Active Sensor Network Deployment", Y. Zhang and **Q. Huang** and J. Liu, in the Proceedings of the IEEE International Workshop on Pervasive Computing and Ad Hoc Communications (PCAC/AINA), April 18-20, 2006, Vienna, Austria

12. "Adaptive Spanning Tree: A Learning-based Meta-Routing Strategy for Sensor Networks", Y. Zhang and **Q. Huang**, in the IEEE Consumer Communications and Networking Conference (CCNC), special session, 2006, Las Vegas, Nevada.
13. "Coordinated Convergecast in Wireless Sensor Networks", Y. Zhang and **Q. Huang**, in the Proceedings of the Military Communication Conference (MILCOM) October 2005, Atlantic City, New Jersey
14. "Tradeoff Between Estimation Performance and Sensor Usage in Distributed Localization Problem", J. Liu and **Q. Huang**, in the International Journal of Ad Hoc and Ubiquitous Computing, Vol.2, No.1, 2006.
15. "Impact of Sensing Coverage on Greedy Geographic Routing Algorithms", G. Xing, C. Lu, R. Pless and **Q. Huang**, IEEE Transactions on Parallel and Distributed Systems, Vol. 17, No. 4, April 2006
16. "Variable Resolution Information Dissemination", A. Ghosh, D. Greene, **Q. Huang** and J. Liu, in the Proceedings of the Second Annual IEEE Communication Society Conference on Sensor and Ad Hoc Communications and Networks (SECON) (*Acceptance ratio:* 1/4), Santa Clara, CA, 2005.
17. "Minimum Power Configuration in Ad Hoc Wireless Sensor Networks", G. Xing, C. Lu, Y. Zhang, **Q. Huang**, R. Pless., in the Proceedings of the Sixth ACM International Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc),2005. (*Acceptance ratio:* 1/7)
18. "FAR: Face-Aware Routing for Mobicast in Large-Scale Sensor Networks", **Q. Huang**, S. Bhattacharya, C. Lu and G-C. Roman, ACM Transactions on Sensor Networks, Vol.1, No.2, pp. 1-32, 2005.
19. "Radial Coordination for Convergecast in Wireless Sensor Networks", **Q. Huang** and Y. Zhang, in the Proceedings of the First IEEE Workshop on Embedded Networked Sensors, Nov 16th, 2004, Tampa, Florida (*Acceptance ratio:* 12/50)
20. "Combs, Needles, and Haystacks: Balancing Push and Pull in Large Scale Sensor Networks", X. Liu, **Q. Huang**, and Y. Zhang, in the Proceedings of the Second ACM Conference on Embedded Networked Sensor Systems (SenSys), 2004 (*Acceptance ratio:* 1/7)
21. "On Greedy Geographic Routing Protocols in Sensing Covered Networks", G. Xing, C. Lu, R. Pless., **Q. Huang**, in the Proceedings of the Fifth ACM International Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc), Japan, 2004. (*Acceptance ratio:* 1/9.7)
22. "Design and Analysis of Spatiotemporal Multicast Protocols for Wireless Sensor Networks", **Q. Huang**, C. Lu, and G.-C. Roman, in the Journal of Telecommunication Systems, 26:2-4, 129-140, 2004, Special Issue on Wireless Sensor Networks, Kluwer Academic Publishers.
23. "Reliable Mobicast via Face-Aware Routing", **Q. Huang**, C. Lu, and G.-C. Roman, in the Proceedings of the IEEE INFOCOM, March 2004 (*Acceptance ratio:* $\sim$ 1/5.4)
24. "Minimal and Maximal Exposure Path Algorithms for Wireless Embedded Sensor Networks", G. Veltri, **Q. Huang**, G. Qu, and M. Potkonjak, in the Proceedings of the First ACM Conference on Embedded Networked Sensor Systems (SenSys), Los Angeles, California, Nov. 2003 (*Acceptance ratio:* 1/5.6)
25. "Spatiotemporal Multicast in Sensor Networks", **Q. Huang**, C. Lu, and Roman, G-C., In the Proceedings of the First ACM Conference on Embedded Networked Sensor Systems (SenSys), Los Angeles, California, Nov. 2003.,(*Acceptance ratio:* 1/5.6)
26. "Mobicast: Just-in-Time Multicast for Sensor Networks under Spatiotemporal Constraints", **Q. Huang**, C. Lu, and G.-C. Roman, in the Proceedings of the 2nd International Workshop on Information Processing in Sensor Networks, (Lecture Notes in Computer Science 2634, Springer-Verlag, April 2003, pp. 442-457 April, 2003), Palo Alto, CA, USA.

Intelligent Transportation Systems

1. "Dynamic Information Sharing using a Distributed Traffic Surveillance Infrastructure", Y.Zhang and **Q. Huang**, in the Proceedings of 10th International IEEE Conference on Intelligent Transportation Systems, Seattle, WA, 2007
2. "An Improved Precrash Warning System with An Impact Energy-Based Estimator", **Q. Huang** and R. Miller, in the Proceedings of the Intelligent Transportation Society (ITS) of America's 14th Annual Meeting, 2004, San Antonio, Texas.
3. "Reliable Wireless Traffic Signal Protocols for Smart Intersections", **Q. Huang** and R. Miller, in the Proceedings of the ITS America's 14th Annual Meeting, 2004, San Antonio, Texas.
4. "An Adaptive Peer-to-Peer Collision Warning System", Miller, R. and **Q. Huang**, in the Proceedings of the Vehicular Technology Conference (VTC) Spring 2002, Birmingham, Alabama.
5. "Development of a Peer-to-Peer Collision Warning System", **Q. Huang**, R. Miller, P. MacNeille, G.-C. Roman and D. DiMeo, in Ford Technical Journal, Vol. 5, No.2, 15 March 2002.
6. (Extra notes: Part of this research work was demonstrated in the 9th World Congress of Intelligent Transport System in Chicago, October 2002. (as part of Ford Motor Company Exhibition.))

Mobile Computing and Software Engineering

1. "SICC: Source-Initiated Context Construction in Mobile Ad Hoc Networks," , C. Julien and G.-C. Roman and **Q. Huang**. IEEE Transactions on Mobile Computing. 2007.
2. "Relying on Safe Distance to Achieve Strong Group Membership in Ad Hoc Mobile Environments", **Q. Huang**, C. Julien, and G.-C. Roman, in the IEEE Transactions on Mobile Computing, Vol. 3, No. 2, pp 192–203, April-June, 2004.
3. "Network Abstractions for Context Aware Mobile Computing," G.-C. Roman, C. Julien, and **Q. Huang**, in the Proceedings of the 24th International Conference on Software Engineering (ICSE), Orlando, Florida, May 2002, pp 363-373. (*Acceptance ratio:* $\sim 1/6$)
4. "Formal Specification and Design of Mobile Systems," G.-C. Roman, C. Julien, and **Q. Huang**, (2001) in the Proceedings of the 7th International Workshop on Formal Methods for Parallel Programming: Theory and Applications, pp.211-215, March 2002.
5. "Consistent Group Membership in Ad Hoc Networks", G.-C. Roman, **Q. Huang** , and A. Hazemi, In the Proceedings of the 23rd International Conference in Software Engineering (ISCE), Toronto, Canada, May 2001. (*Acceptance ratio:* $\sim 1/7$)

Quantum Physics

1. "Quantum lattice fluctuations in the ground state of one-band MX Complexes", C.Q. Wu, **Q. Huang**, and X. Sun Synthetic Metals 86, 2247(1997)
2. "Destruction of Peierls dimerization in molecular crystal model: Effects of quantum phonon fluctuations", C.Q. Wu, **Q. Huang** and X. Sun., Phys. Rev. B52, R15683-R15686 (1995)
3. "Quantum effects on the phonon excitations of one-dimensional electron-phonon systems", C.Q. Wu, **Q. Huang** and X. Sun., Phys. Rev. B52, 7802(1995).
4. "Effects of quantum lattice fluctuations on the charge-density wave of halogen-bridged mixed-valence transition-metal linear complexes", **Q. Huang**, C. Q. Wu, and X. Sun, Phys. Rev. B52, 5637(1995).
5. "Electron Correlation Effect on C60 Exciton Polaron", **Q. Huang**, R.T. Fu, X. Sun and R.L. Fu, Acta Phys. Sinica, 43, 1833(1994).

6. "A CDW Mode for MX Complex: Hartree-Fock Scheme of Ground State", R.T. Fu, **Q. Huang**, X. Sun and R.L. Fu, Commun. Theor. Phys., 22, 139(1994).
7. "Dynamical Process of Charge Transfer in Fullerene C60", R.T. Fu, Z.G. Yu, **Q. Huang**, X. Sun and R.L. Fu, Chin. Phys. Lett., 11, 133(1994).
8. "Photo-induced Ultrafast Process of Relaxation in Polymer", Z.G. Yu, **Q. Huang** and X. Sun, Chinese Physics Letters, 10, 550(1993)

Neural Science

- "Harmonic Analysis of Spiking Neuron Pairs", C.H. Anderson, **Q. Huang** and J.W. Clark, Neurocomputing 32-33: 279-284 (2000)

Recommendation Systems

- " Collaborative Filtering is not Enough? Experiments with a Mixed-Model Recommender for Leisure Activities", Nicolas Ducheneaut, **Q. Huang**, Kurt Partridge, Bob Price, Mike Roberts, Ed H. Chi, Victoria Bellotti, Bo Begole. In Proc. of International Conference on User Modeling, Adaptation, and Personalization (UMAP 2009). pp. 295–306. Trento, Italy. June 2009.

Under Preparation or Review

- Affinity Computing: Applications and Challenges
- Space, Time and Information Dissemination
- HealthFriendFinder: A Contextual Enabling Component for Social Healthcare
- Using Sensor Network for Automating Home Health Data Collection
- Horizontal Robotics: Opportunities and Challenges
- VirtualEar: Sensing and Actuation

Other Publications

Editorials

- Guest Editoral, **Q. Huang**, Y. Zhang, M. Potkonjak, and L. Ni, the International Journal of Ad Hoc and Ubiquitous Computing, Vol.2, No.1, 2006.

Selected Technical Reports

1. "Incremental Localization with Error Control in Ad Hoc Networks", F. Zhao, J. Liu, Y. Zhang, **Q. Huang**, and Y. Zou, Technical Report P200310265, Palo Alto Research Center, 2004
2. "A Unified Specification Framework for Spatiotemporal Communication," G.-C. Roman, O. Chipara, C.-L. Fok, **Q. Huang**, and C. Lu, Technical Report WUCSE-03-66, Department of Computer Science and Engineering, Washington University in St. Louis, October 2003
3. "Spatiotemporal Multicast and Partitionable Group Membership Service" **Q. Huang**, Technical Report WUCSE-03-55, Washington University, Department of Computer Science and Engineering, St. Louis, Missouri.

4. "Greedy Geographic Routing is Good Enough in Sensing Covered Networks" G. Xing, C. Lu, R. Pless., **Q. Huang**, Technical Report WUCSE-03-50, Washington University, Department of Computer Science and Engineering, St. Louis, Missouri.
5. "Solving an Open Sensor Exposure Problem using Variational Calculus", **Q. Huang**, Technical Report WUCS-03-1, Washington University, Department of Computer Science and Engineering, St. Louis, Missouri.
6. "Declarative and Dynamic Context Specification Supporting Mobile Computing in Ad Hoc Networks," C. Julien, G.-C. Roman, and **Q. Huang**, Technical Report WUCSE-03-13, Washington University, Department of Computer Science and Engineering, St. Louis.
7. "Supporting Context-aware Computing in Ad Hoc Mobile Environments", **Q. Huang**, Technical Report WUCS-02-36, Washington University, Department of Computer Science and Engineering, St. Louis, Missouri.

PATENTS

[**L**]: Lead inventor

1. System and method for determining characteristics of a physical environment with simple motion patterns[**L**](**US 8,457,829**)
2. System and Method for Rideshare Security [**L**](**US 8,224,571**)
3. System and Method for Setting a Rideshare Transaction Fee [**L**](**US 8,095,305**)
4. System and Method for Financing a Rideshare System [**L**](**US 8,036,824**)
5. System and method for monitoring the security of participants in a rideshare environment [**L**](**US 8086400**)
6. System And Method For Assigning Participants To A Rideshare Based On Financial Transactions [**L**](**US 7974779**)
7. System And Method For Matching Participants In A Rideshare Program [**L**](**US 7970533**)
8. System And Method For Financial Transactions In A Rideshare Environment [**L**](**US 7930098**)
9. System and Method for Monitoring Participant Security in a Rideshare Environment [**L**](**US 7869945**)
10. Systems and methods for dynamically determining data-identity information [**L**](**US 7774212**)
11. System and Method for Security Enhanced Rideshare [**L**](7756633)
12. Method for Collaboratively Tagging and Highlighting Electronic Documents [**L**](pending)
13. System and Methods for Sharing Information [**L**](pending)
14. System and Methods for Structured Variable Information Resolution Information Dissemination and Discovery [**L**](**US 7644105**)
15. Systems and Methods for Dynamically Determining Data-Identity Information [**L**](pending)
16. Coordinated Convergecast for Ad Hoc Wireless Networks [**L**](**US 7474630**)
17. Vehicle Network Advertising [**L**](pending)
18. System to Manage Advertising and Coupon Presentation in Vehicles [**L**](pending)
19. System for Propagating Advertisements for Market Controlled Presentation [**L**](**US 7412405**)
20. Reverse Bidding for Trip Services [**L**](pending)
21. System and Method for Planning and Indirectly Guiding Robotic Actions Based on External Factor Tracking and Analysis [**L**](pending)
22. Using Multi-Resolution Visual Codes to Facilitate Information Browsing in the Physical World [**L**](pending)
23. Methods and Apparatus for Rear-end Collision Warning and Accident Mitigation [**L**](**US 7495550**)

24. System and Method for Determining Characteristics of A Physical Environment With Simple Motion Patterns (pending)
25. Method of Reading Instruction (pending)
26. Query-Based Convergecast Scheduling in Wireless Sensor Networks (**US 8005002**))
27. Brain-wave Facilitated Presenter Feedback Mechanism (pending)
28. Brain-wave Aware Sleep Management (**US 7689274**))
29. Method and Apparatus for Performing a Query-based Convergecast Scheduling in a Wireless Sensor Network (pending)
30. Methods, Apparatus, and Program Products for Applying a Visibility Function to Networked Information (**US 7466664**)
31. Method and Apparatus for Optimizing Convergecast Operations in a Wireless Sensor Network (**US 7492726**)
32. System and Method for Performing Distributed Sequential Node Localization in Active Sensor Deployment (**US 7684927**))
33. Methods for Producing Low-Visibility Retroreflective Visual Tags (**US 7387393**)
34. Information Dissemination System Having an Information Layer(**US 7720060**)
35. Specifying Predicted Utility of Information in a Network (pending)
36. Providing a Propagation Specification for Information in a Network (pending)
37. Modification of Information Utility Based Upon Context (**US 8171105**)
38. Derivation of a Propagation Specification From a Predicted Utility of Information in a Network(**US 8325718**)
39. Congestion Management in an Ad-Hoc Network Based Upon a Predicted Information Utility (**US 7966419**)
40. Selection of Transmission Media in an Ad-Hoc Network Based Upon Approximate Predicted Information Utility (**US 7,751,390**)
41. Selection of information for transmission and storage in an ad-hoc network based upon local synopsis exchange (**US 7835351**)
42. Systems having a reflected light sensor and methods of use (WO 2013173237 A1 pending)
43. 4 more patents pending in China (omitted)

Professional Services

- Editor for the International Journal of Ad Hoc and Ubiquitous Computing by the Inderscience publishers
- TPC Member for
  - The First ACM International Workshop on Mobile Entity Localization and Tracking in GPS-less Environments (MELT), 2008
  - IEEE Real-Time Systems Symposium (RTSS) [Sensor Networks and Applications Track], 2007
  - International Conference on Wireless Algorithms, Systems, and Applications (WASA), Chicago, 2007
  - International Conference on Wireless Algorithms, Systems, and Applications (WASA), Xian, China, 2006
  - IEEE International Workshop on Ad Hoc and Ubiquitous Computing, 2006.
  - IEEE International Workshop on Heterogeneous Multi-hop Wireless and Mobile Networks, 2005.

  - the First International Conference on Mobile Ad-Hoc and Sensor Networks (MSN) 2005
  - the Wireless IP Symposium of IEEE WirelessCom 2005.
- Guest Editor for a special issue on wireless sensor networks for the International Journal of Ad Hoc and Ubiquitous Computing
- Session chair, the first IEEE Workshop on Embedded Networked Sensors, Tampa, Florida, 2004
- Founding member of the Sensor Network Applications and Technologies Forum (2004, snafu-net.org, in hibernation).
- Ad hoc reviewer for the following journals:
  - the ACM Transactions on Sensor Networks,
  - the IEEE Transactions on Mobile Computing,
  - the IEEE Transactions on Systems, Man, and Cybernetics
  - the IEEE Wireless Communications Magazine,
  - the IEEE Transactions on Parallel and Distributed Systems
  - the IEEE Communication Letters
  - the IEEE Pervasive Computing
  - the IEEE Transactions on Intelligent Transportation Systems
  - the International Journal of Wireless and Mobile Computing (Inderscience)
  - the Telecommunication Systems Journal (Kluwer)
  - the Ad Hoc Networks Journal (Elsevier)
  - the Pervasive and Mobile Computing Journal (Elsevier)
  - the Journal of Wireless Communications and Mobile Computing (Wiley)
  - the Wireless Networks Journal (Springer)
- Served as a referee for conferences such as ICDCS, WCNC, EMNets-I, MobiSys, IEEE MH-WMN, etc.
- Referee for a CRDF(The United States Civilian Research & Development Foundation for the independent states of the former Soviet Union) research funding proposal.

Interns Supervised

I had the privilege to work with the following bright intern students:

- Arpita Ghosh (Stanford), now at Yahoo! Research
- Guoliang Xing (WUSTL), joined the faculty of Michgan State Univ
- Shashidhar Gandham (UT-Austin), now at Google
- Jia Tao (Iowa State), now at Iowa State
- Tim Mullen (UC-Berkeley), now at UCSD

Other Social Services

- Certificated Medic First-Aid/CPR Provider (2004-)
- MentorNet Volunteer (2004-)
- Production manager for Jun Lu Performing Arts Annual Showcases (2006-2011)

References

Available upon request.