

## **Guanling Chen**, Associate Professor

Director of the Mobile Intelligent Systems and Applications (MISA) Lab

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### **I. EDUCATION**

- **Ph.D.** – August 2004, Dartmouth College, Computer Science, Hanover, NH  
Advisor: David Kotz
- **B.S.** – May 1997, Nanjing University, Computer Science, Nanjing, China

### **II. PROFESSIONAL APPOINTMENTS**

- 09/2011 – : Associate Professor, Department of Computer Science, UMass Lowell
- 09/2007 – : Digital Library Coordinator, Executive Committee, ACM SIGMOBILE
- 09/2005 – : Affiliate Faculty, Institute of Security Technology Studies, Dartmouth College
- 09/2005 – : Campus Liaison, USENIX Association
- 09/2008 – 08/2011: Associate Director, Center of Network and Information Security, UMass Lowell
- 09/2005 – 08/2011: Assistant Professor, Department of Computer Science, UMass Lowell
- 09/2004 – 08/2005: Postdoctoral Fellow, Institute for Information Infrastructure Protection
- 05/2000 – 08/2005: Summer Intern, IBM T.J. Watson Research

### **III. AWARDS AND ACHIEVEMENTS**

- **Research Funding Award**
  - National Science Foundation (NSF) HCC Award, 2010—2014, NSF FIA Award, 2010—2014, NSF HCC Award, 2009—2013, NSF CRI Award, 2007—2011
  - Department of Homeland Security (DHS) HSARPA Award, 2005—2009
  - I3P Fellowship, 2004—2005
  - USENIX Scholarship, 2001—2002
- **Research Paper Award**
  - Best Paper Award, MobiQuitous 2009
  - Best Paper Honorable Mention, MobiQuitous 2009

### **IV. PUBLICATIONS**

#### **A. Refereed Journal Articles**

- J1. Edwin D. Boudreaux, Andrew Fischer, Brianna Haskins, Zubair Zafar, Guanling Chen, and Sneha Shah. Optimizing Usability of Computerized Behavioral Health Screening Through Iterative Testing and Modification, **Submitted** to Journal of Medical Internet Research. July 2015.
- J2. Haoyi Xiong, Daqing Zhang, Guanling Chen, Leye Wang, and Vincent Gauthier. iCrowd: Near-Optimal Task Allocation for Piggyback Crowdsensing. **Submitted** to ACM Transaction of Mobile Computing (TMC). May 2015.

- J3. Xiaoxiao Ma, Bo Yan, Guanling Chen, Chunhui Zhang, Ke Huang, Jill Drury, Linzhang Wang. A Toolkit for Usability Testing of Mobile Applications. *ACM/Springer Mobile Networks and Applications (MONET)*. 18(1):81-97. February 2013.
- J4. Xian Chen, Yoo-Ah Kim, Bing Wang, Yuan Song, Hieu Dinh, and Guanling Chen. Sniffer Channel Selection for Monitoring Wireless LANs. *Computer Communications*. 35(16):1994-2003, September 2012.
- J5. Xiaoxiao Ma, Guanling Chen, and Juntao Xiao. Understanding Weight Change Behaviors Through Online Social Networks. *International Journal of Computational Models and Algorithms in Medicine (JCMAM)*, 2(3):46-69, July-September 2011.
- J6. Zhengyi Le, Yi Ouyang, Guanling Chen, and Fillia Makedon, Dynamic Mix Zone: Location Data Sanitizing in Assisted Environments. *International Journal of Universal Access in the Information Society (UAIS)*, 10(2):195-205. June 2011.
- J7. Nan Li and Guanling Chen, Sharing Location in Online Social Networks. *IEEE Networks Special Issue on Online Social Networks*, September-October 2010.
- J8. Nan Li, Bo Yan, Guanling Chen, Prabhu Govindaswamy, and Jie Wang. Continuous Camera-based Monitoring for Assistive Environments. *Springer Personal and Ubiquitous Computing Journal (PUC)*, 14(6):499–510, September 2010.
- J9. Bo Yan, Guanling Chen, Jie Wang, and Hongda Yin. Robust Detection of Unauthorized Wireless Access Points. *ACM/Springer Mobile Networks and Applications (MONET)*, 14(4):508–522, August 2009.
- J10. Nan Li, Guanling Chen, and Meiyuan Zhao. Autonomic Fault Management for Wireless Mesh Networks. *Electronic Journal for E-Commerce Tools and Applications (eJETA)*, 2(4), January 2009.
- J11. Yong Sheng, Guanling Chen, Keren Tan, Udayan Deshpande, Bennet Vance, Hongda Yin, Chris McDonald, Tristan Henderson, David Kotz, Andrew Campbell, and Joshua Wright. MAP: A Scalable Monitoring System for Dependable 802.11 Wireless Networks. *IEEE Wireless Communications, Special Issue on Dependability Issues with Ubiquitous Wireless Access*, 15(5):10–18, October 2008.
- J12. Guanling Chen, Ming Li, and David Kotz. Data-Centric Middleware for Context-Aware Pervasive Computing. *Elsevier Pervasive and Mobile Computing (PMC) Journal*, 4(2):216–253, April 2008.

#### **B. Book Chapters in Edited Books**

- B1. Jie Wang, You Li, Benyuan Liu, Guanling Chen, and Jun-Hong Cui. Optimization Problems in Online Social Networks. In Panos M. Pardalos, Ding-Zhu Du, Ronald L. Graham (eds.), *Handbook of Combinatorial Optimization*, pages 2455–2501, Springer. October 2013.
- B2. Yurong Xu, Guanling Chen, James Ford, and Fillia Makedon. Detecting Wormhole Attacks in Wireless Sensor Networks. In Sujeet Sheno (eds.), *Critical Infrastructure Protection*, pages 267–280, Springer. November 2007.
- B3. Guanling Chen, Kazuhiro Minami, and David Kotz. Naming and Discovery in Mobile Systems. In Paolo Bellavista and Antonio Corradi (eds.), *The Handbook of Mobile Middleware*, pages 387–407, AUERBACH. October 2006.

#### **C. Refereed Conference and Workshop Proceedings**

- C1. Xu Ye, Guanling Chen, and Yu Cao. Automatic Eating Detection Using Head-Mount and Wrist-Worn Accelerometers. The 17<sup>th</sup> International Conference on E-health Networking, Application & Services (HealthCom). Boston, MA, August 2015.
- C2. Ke Huang, Xiang Ding, Jing Xu, Guanling Chen, and Wei Ding. Monitoring Sleep and Detecting Irregular Nights through Unconstrained Smartphone Sensing. The 12th IEEE International Conference on Ubiquitous Intelligence and Computing (UIC). Beijing, China, August 2015. Acceptance rate 30.6%.
- C3. Jiaxu Sun, Yongchao Li, Linzhang Wang, Xuandong Li, Xiaoxiao Ma, Jing Xu, and Guanling Chen. Controlling Smart TVs using Touch Gestures on Mobile Devices. The 7th International Symposium on UbiCom Frontiers - Innovative Research, Systems and Technologies (UFirst). Beijing, China, August 2015.
- C4. Haoyi Xiong, Daqing Zhang, Guanling Chen, Leye Wang, Vincent Gauthier. CrowdTasker: Maximizing Coverage Quality in Piggyback Crowdsensing under Budget Constraint. IEEE International Conference on Pervasive Computing and Communications (PerCom), St. Louis, Missouri, March 2015. Acceptance rate 16.5%.
- C5. Guanling Chen, Xiang Ding, Ke Huang, Xu Ye, Chunhui Zhang. Changing Health Behaviors through Social and Physical Context Awareness. International Conference on Computing, Networking and Communications (ICNC), Anaheim, CA, February 2015. Invited Paper.
- C6. J. Cox, Y. Cao, G. Chen, J. He, and D. Xiao. Smartphone-based Walking Speed Estimation for Stroke Mitigation. IEEE International Symposium on Multimedia (ISM 2014), Taichung, Taiwan, December 2014. Acceptance rate 30%.
- C7. Jing Xu, Xiang Ding, Ke Huang, and Guanling Chen. A Pilot Study of an Inspection Framework for Automated Usability Guideline Reviews of Mobile Health Applications. Wireless Health (WH), NIH Bethesda, MD, October 2014. Acceptance rate 29%.
- C8. Daqing Zhang, Haoyi Xiong, Leye Wang, and Guanling Chen. CrowdRecruiter: Selecting Participants for Piggyback Crowdsensing under Probabilistic Coverage Constraint. The ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp), Seattle, WA, September 2014. Acceptance rate 21%.
- C9. Chunhui Zhang, Guanling Chen, Kiran Nagaraja, Samuel Nelson, Ivan Seskar, and Dipankar Raychaudhuri. Mobility-Centric Host Stack for the Future Internet. The Sixth International Conference on Ubiquitous and Future Network (ICUFN), Shanghai, China, July 2014. Acceptance rate 43%.
- C10. Yongchao Li, You Li, Linzhang Wang, and Guanling Chen. Automatic XACML Requests Generation for Testing Access Control Policies. The Twenty-Sixth International Conference on Software Engineering and Knowledge Engineering (SEKE), Vancouver, Canada, July 2014. Acceptance rate 29%.
- C11. Xu Ye, Bo Yan, and Guanling Chen. Providing Diagnostic Network Feedback to End Users on Smartphones. The 32<sup>rd</sup> International Performance Computing and Communications Conference (IPCCC), San Diego, CA, December 2013. Acceptance rate 27%.
- C12. Chunhui Zhang, Ke Huang, and Guanling Chen. MVPTrack: Energy-Efficient Places and Motion States Tracking. The 10th International Conference on Mobile and Ubiquitous Systems: Computing, Networking and Services (MobiQuitous), Tokyo, Japan, December 2013. Acceptance rate 30%.

- C13. Jing Xu, Xiang Ding, Guanling Chen, Jill Drury, and Linzhang Wang. A New Method for Automated GUI Modeling of Mobile Applications. The 10th International Conference on Mobile and Ubiquitous Systems: Computing, Networking and Services (MobiQuitous), Tokyo, Japan, December 2013. Acceptance rate 30%.
- C14. Xiang Ding, Jing Xu, and Guanling Chen. Exploring Structural Analysis of Place Networks Using Check-In Signals. IEEE GLOBECOM, Atlanta, GA, December 2013. Acceptance rate 37%.
- C15. Ke Huang, Xiang Ding, Guanling Chen and Kate Saenko. Automatic Mobile Photo Tagging Using Context (Invited Paper). IEEE TENCON, Xi'an, China, October 2013.
- C16. Chunhui Zhang, Xiang Ding, Guanling Chen, Ke Huang, Xiaoxiao Ma, and Bo Yan. Nihao: A Predictive Smartphone Application Launcher. The 4th International Conference on Mobile Computing, Applications, and Services (MobiCase), Seattle, WA, October 2012.
- C17. Ke Huang, Xiaoxiao Ma, Chunhui Zhang, and Guanling Chen. Predicting Mobile Application Usage Using Context Information. International Workshop on Situation, Activity and Goal Awareness (SAGAWARE), Pittsburgh, PA. September 2012.
- C18. Xiaoxiao Ma, Bo Yan, Guanling Chen, Chunhui Zhang, Ke Huang, and Jill Drury. A Toolkit for Usability Testing of Mobile Applications. The 3rd International Conference on Mobile Computing, Applications, and Services (MobiCase), Los Angeles, CA, October 2011.
- C19. Bo Yan and Guanling Chen. AppJoy: Personalized Mobile Application Discovery. The Ninth International Conference on Mobile Systems, Applications, and Services (MobiSys), Washington, DC, June 2011. Acceptance rate 18%.
- C20. Guanhua Yan, Guanling Chen, Stephan Eidenbenz, and Nan Li. Malware Propagation in Online Social Networks: Nature, Dynamics, and Defense Implications. The 6th ACM Symposium on Information, Computer and Communications Security (ASIACCS), Hong Kong, China, March 2011. Acceptance rate 16%.
- C21. Xiaoxiao Ma, Guanling Chen, and Juntao Xiao. Analysis of An Online Health Social Network. International Symposium on Health Informatics (IHI), Washington, DC, November 2010. Acceptance rate 17%.
- C22. J. Liu, M. Erazo, N. Van Vorst, Y. Luo, G. Chen, T. Ficarra, and E. Murray. Massive-Scale Experimentation of Location Based Video Streaming on Content Distribution Networks. In GENI Experimentation Workshop, Princeton, NJ, June 2010.
- C23. Nan Li and Guanling Chen, Analysis of a Location-based Social Network. In Proceedings of the International Symposium on Social Intelligence and Networking (SIN), Vancouver, Canada, August 2009. Acceptance rate 20%.
- C24. Yuan Song, Xian Chen, Yoo-Ah Kim, Bing Wang, and Guanling Chen. Sniffer Channel Selection for Monitoring Wireless LANs. In Proceedings of the International Conference on Wireless Algorithms, Systems, and Applications (WASA). Boston, MA, August 2009.
- C25. Nan Li and Guanling Chen, Geographic Community Analysis of Mobile Social Networks. Workshop on Social Networks, Applications, and Systems (SNAS), Boston, MA, August 2009.
- C26. Nan Li and Guanling Chen, Multi-Layer Friendship Modeling for Location-based Mobile Social Networks. **Best Paper Award**. In Proceedings of the International Conference on Mobile and Ubiquitous Systems: Computing, Networking and Services (MobiQuitous), Toronto, Canada, July 2009. Acceptance rate 22%.

- C27. Bo Yan and Guanling Chen, Model-based Fault Diagnosis for IEEE 802.11 Wireless LANs. Honorable Mention for Best Paper Award. In Proceedings of the International Conference on Mobile and Ubiquitous Systems: Computing, Networking and Services (MobiQuitous), Toronto, Canada, July 2009. Acceptance rate 22%.
- C28. Guanling Chen, Bo Yan, Minho Shin, David Kotz, and Ethan Berk, MPCS: Mobile-based Patient Compliance System for Chronic Illness Care. In Proceedings of the Workshop on Ubiquitous Mobile Healthcare Applications (MobiCare), Toronto, Canada, May 2009.
- C29. Guanling Chen and Faruq Rahman. Analyzing Privacy Designs of Mobile Social Networking Applications. In Proceedings of the IEEE/IFIP International Symposium on Trust, Security and Privacy for Pervasive Applications (TSP). Shanghai, China, December 2008. Acceptance rate 43%.
- C30. Nan Li, Bo Yan, Guanling Chen. A Measurement Study on Wireless Camera Networks. In Proceedings of the International Conference on Distributed Smart Cameras (ICDSC), Stanford, CA. September 2008.
- C31. Guanling Chen, Prabhu Govindaswamy, Nan Li, and Jie Wang. Continuous Camera-based Monitoring for Assistive Environments. In Proceedings of the 1st International Conference on Pervasive Technologies Related to Assistive Environments (PETRA), Athens, Greece. July 2008.
- C32. Yi Ouyang, Zhengyi Le, Guanling Chen, and Fillia Makedon. Providing Location Privacy in Assisted Living Environment. In Proceedings of the 1st International Conference on Pervasive Technologies Related to Assistive Environments (PETRA), Athens, Greece. July 2008.
- C33. Yong Sheng, Keren Tan, Guanling Chen, David Kotz, and Andrew Campbell. Detecting 802.11 MAC Layer Spoofing using Received Signal Strength. In Proceedings of the IEEE Conference on Computer Communications (INFOCOM), Phoenix, AZ. April 2008. Acceptance rate 21%.
- C34. Hongda Yin, Guanling Chen, and Jie Wang. Detecting Protected Layer-3 Rogue APs. In Proceedings of the Fourth IEEE International Conference on Broadband Communications, Networks, and Systems (BROADNETS), Raleigh, NC. September 2007. Acceptance rate 35%.
- C35. Yurong Xu, Guanling Chen, James Ford, and Fillia Makedon. Distributed Wormhole Attack Detection in Wireless Sensor Networks. In Proceedings of the First Annual IFIP Working Group 11.10 International Conference on Critical Infrastructure Protection, Hanover, NH. March 2007. Acceptance rate 54%.
- C36. Yi Ouyang, Zhengyi Le, Guanling Chen, James Ford, and Fillia Makedon. Entrapping Adversaries for Source Protection in Sensor Networks. In Proceedings of the IEEE International Symposium on a World of Wireless, Mobile and Multimedia Networks (WoWMoM), pages 23-32, IEEE Computer Society Press. Buffalo, NY, June 2006. Acceptance rate 10%.
- C37. Guanling Chen and Robert Gray. Simulating Non-Scanning Worms on Peer-to-Peer Networks. In Proceedings of the First IEEE International Conference on Scalable Information Systems (INFOSCALE), Hong Kong, China. May 2006. Acceptance rate 36%.
- C38. Guanling Chen and David Kotz. Policy-Driven Data Dissemination for Context-Aware Applications. In Proceedings of the Third IEEE International Conference on Pervasive

Computing and Communications (PerCom), pages 283-289, IEEE Computer Society Press. Kauai, HI. March 2005. Acceptance rate 17%.

- C39. Guanling Chen, Ming Li, and David Kotz. Design and Implementation of a Large-Scale Context Fusion Network. In Proceedings of the First Annual International Conference on Mobile and Ubiquitous Systems (MobiQuitous), pages 246-255, IEEE Computer Society Press. Boston, MA. August 2004. Acceptance rate 38%.
- C40. Jue Wang, Guanling Chen, and David Kotz. A Sensor-Fusion based Approach for Meeting Detection. In Proceedings of the Workshop on Context Awareness. Boston, MA. June 2004. Acceptance rate 71%.
- C41. Guanling Chen and David Kotz. Context-Aware Resource Discovery. In Proceedings of the First IEEE International Conference on Pervasive Computing and Communications (PerCom), pages 243-252, IEEE Computer Society Press. Fort Worth, TX. March 2003. Acceptance rate 32%.
- C42. Guanling Chen and David Kotz. Context Aggregation and Dissemination in Ubiquitous Computing Systems. In Proceedings of the Fourth IEEE Workshop on Mobile Computing Systems and Applications (WMCSA), pages 105-114, IEEE Computer Society Press. Callicoon, NY. June 2002. Acceptance rate 35%.
- C43. Guanling Chen and David Kotz. Solar: An Open Platform for Context-Aware Mobile Applications. In Proceedings of the First International Conference on Pervasive Computing (Pervasive), pages 41-47. Zurich, Switzerland. June 2002. Acceptance rate 29%.
- C44. Guanling Chen and David Kotz. Solar: Towards a Flexible and Scalable Data-Fusion Infrastructure for Ubiquitous Computing. In Proceedings of the Workshop on Application Models and Programming Tools for Ubiquitous Computing, Atlanta, GA. October 2001. Acceptance rate 84%.

#### **D. Refereed Posters**

- P1. Guanling Chen and David Kotz. Dependency Management in Distributed Settings. In Proceedings of the First International Conference on Autonomic Computing (ICAC), pages 272-273, IEEE Computer Society Press. New York City, NY. May 2004. Acceptance rate 48%.
- P2. Guanling Chen and David Kotz. Stream Management in a Context Aggregation System. In The First International Conference on Mobile Systems, Applications, and Services (MobiSys). San Francisco, CA. May 2003.

#### **E. Non-Refereed Technical Reports**

- T1. Nan Li, Guanling Chen, and Meiyuan Zhao. Autonomic Fault Management for Wireless Mesh Networks. Technical Report 2008-04, Department of Computer Science, University of Massachusetts Lowell. April 2008.
- T2. Guanling Chen, Heng Huang, and Minkyong Kim. Mining Frequent and Periodic Association Patterns. Technical Report TR2005-550, Department of Computer Science, Dartmouth College. July 2005.
- T3. Guanling Chen and David Kotz. Structural Analysis of Social Networks with Wireless Users. Technical Report TR2005-549, Department of Computer Science, Dartmouth College. July 2005.

- T4. Guanling Chen and David Kotz. A Case Study of Four Location Traces. Technical Report TR2004-490, Department of Computer Science, Dartmouth College. February 2004.
- T5. Guanling Chen and David Kotz. Supporting Adaptive Ubiquitous Applications with the Solar System. Technical Report TR2001-397, Department of Computer Science, Dartmouth College. May 2001.
- T6. Guanling Chen and David Kotz. A Survey of Context-Aware Mobile Computing Research. Technical Report TR2000-381, Department of Computer Science, Dartmouth College. November 2000.

## **V. RESEARCH FUNDING: GRANTS AND CONTRACTS**

### **A. External Grants**

- G1. 2010–2015, National Science Foundation (PI). \$499,670  
Contextualized and Automated Usability Testing for Mobile Applications.  
With Jill Drury and David Kotz.
- G2. 2010–2014, National Science Foundation (site PI). \$300,000  
MobilityFirst: A Robust and Trustworthy Mobility-Centric Architecture for the Future Internet.  
Part of a 9-institute 16-investigator collaborative project. \$7,500,000
- G3. 2009–2013, National Science Foundation (PI). \$300,000  
Integrating User Context and Conceptual Perceptions for Understandable Wireless Access on Open-Platform Smartphones.  
With additional REU supplements \$15,925.
- G4. 2007–2010, National Science Foundation (co-PI). \$150,000  
Programmable Network Infrastructure with Emerging Technologies.  
With Yan Luo (PI), Kavitha Chandra, and Jie Wang.
- G5. 2007–2009, Department of Homeland Security (site PI). \$80,886  
Dartmouth Internet Security Testbed.  
Part of a multi-institute collaborative project with David Kotz, Andrew Campbell, and George Cybenko. \$1,292,654.
- G6. 2005–2007, Department of Homeland Security (site PI). \$119,704  
M.A.P. (Measure, Analyze, Protect): Security through Measurement for Wireless LANs.  
Part of a multi-institute collaborative project with David Kotz, Andrew Campbell, and Tristan Henderson. \$1,797,810.
- G7. 2004–2005, Institute for Information Infrastructure Protection (PI). \$149,412  
Scalable Data-Fusion System for Distributed Internet Worm Detection.  
I3P Fellowship.  
*This was awarded for my postdoctoral fellowship.*
- G8. 2001–2002, USENIX Association (student). \$16,000  
Infrastructure Support for Context-Aware Pervasive-Computing Applications.  
USENIX Student Scholarship.  
*This was awarded for my PhD dissertation work.*

### **B. Internal Grants**

- G9. 2011-2012, UMass Creative Economy Award (co-PI). \$29,000  
Leveraging Online Social Networks to Support Creative Ventures.  
With Yi Yang (PI) and Steven Tello.
- G10. 2010–2011, UMass Lowell URSC Seed Award (co-PI). \$10,000  
Online Social Networks and Nascent Entrepreneur Success.  
With Yi Yang (PI) and Steven Tello.
- G11. 2006–2007, UMass Lowell URSC Seed Award (PI). \$9,990  
Federated Intelligent Camera Surveillance.

## **VI. STUDENT SUPERVISION, MENTORING AND TEACHING**

### **A. Doctoral (Ph.D.) Students and Dissertations Supervised**

- 1. Mr. Zhenyu Pan. Research Area: Smartphone Sensing. 2013—present.
- 2. Mr. Xu Ye. Research Area: Smartphone Diagnostics. 2011—present.
- 3. Ms. Jing Xu. Research Area: Usability Testing for Mobile Applications. 2011—present.
- 4. Mr. Xiang Ding. Research Area: Mobile Cloud Computing. 2011—present.
- 5. **Mr. Ke Huang. Graduated.** Dissertation Title: Unconstrained Smartphone Sensing and Empirical Study for Sleep Monitoring and Self-Management. 2011—2015. Now at Microsoft.
- 6. **Mr. Chunhui Zhang. Graduated.** Dissertation Title: MVPTrack: An Energy Efficient Continuous Places and Motion States Tracking System. 2010—2015. Now at Akamai.
- 7. **Mr. Xiaoxiao Ma. Graduated.** Dissertation Title: FAMULUS - An Automated Usability Testing System for Mobile Applications. 2009—2014. Now at Facebook.
- 8. **Mr. Bo Yan. Graduated.** Dissertation Title: Collaborative Fault Diagnosis in Large-Scale Mobile Communication Networks. 2007—2012. Now at Amazon.
- 9. **Mr. Nan Li. Graduated.** Dissertation Title: Characterizing and Modeling A Location-Based Social Network. 2006—2010. Now at Microsoft, China.

### **B. Master Theses Supervised**

- 1. **Mr. Rajesh Kaveti. Graduated.** Topic: Design and Implementation of A System for Collecting Mobile Web Usability Data. December 2009. Now at ZenSar Technologies, India.
- 2. **Mr. Prabhu Govindaswamy. Graduated.** Topic: Early Results on Sensor-Integrated Camera Surveillance. December 2007. Now at Apple.
- 3. **Mr. Hongda Yin.** Topic: Performance and Security Monitoring in Wi-Fi Networks. May 2007. Now at MathWorks.
- 4. **Ms. Homayara Akter. Graduated.** Topic: Monitoring and Analyzing Outdoor Wireless Networks. June 2007. Now at MathWorks.
- 5. **Ms. Chun-Yin Liu. Graduated.** Topic: Experimental Performance Evaluation of Wireless Local Area Networks Using Machine Learning. June 2006. (Co-advised with Dr. Gary Livingston.)

### **C. Research Experience Undergraduate Advised**

- 1. Mr. Andrew Webb. Research Area: Networking on emerging smartphone platforms. 2011—2014. Now at OnGiG.
- 2. Mr. Hoanh Nguyen. Research Area: Experience Sampling Toolkit on Android. 2010—2011. Now at MITRE.

### **D. Instructor of Independent Studies**



1. Mr. Sivakumar Easwaran. Study Topic: Distributed Graph Algorithms for Social Network Analysis. Summer 2009.
2. Mr. Shashank Kodupuganti. Study Topic: Evaluation of Existing Natural Language Processing Tools. Summer 2008.

#### E. Examination Committee

1. Mr. Alex Agnello, M.S. April 2011, UMass Lowell.
2. Mr. Craig Masley, M.S. December 2010, UMass Lowell.
3. Mr. Yi Ouyang, Ph.D. June 2008, Dartmouth College.
4. Ms. Zhengyi Le, Ph.D. December 2007, Dartmouth College.
5. Ms. Rong Zheng, M.S. October 2007, Dartmouth College.
6. Mr. Justin Latham, M.E. June 2007, UMass Lowell.
7. Mr. Ning Zhong, Ph.D. December 2006, UMass Lowell.

#### E. Teaching Records

Semester	Course No.	Course Title	Enrollment	Level
Fall 2005	91.564	Data Communications II	5	G
Spring 2006	91.563	Data Communications I	11	G
Fall 2006	91.564	Data Communications II	6	G
Spring 2007	91.563	Data Communications I	11	G
Fall 2007	91.564	Data Communications II	9	G
Spring 2008	91.201	Computing III	6	UG
Spring 2008	91.563	Data Communications I	11	G
Fall 2008	91.201	Computing III	33	UG
Fall 2008	91.580	Online Social Networks	8	G
Spring 2009	91.201	Computing III	13	UG
Spring 2009	91.650	Advanced Wireless Networks	6	G
Fall 2009	91.413	Data Communications I	13	UG
Spring 2010	91.414	Data Communications II	10	UG
Fall 2010	91.201	Computing III	50	UG
Spring 2011	91.650	Topics in Wireless Networks	14	G
Spring 2011	91.201	Computing III	20	UG
Spring 2011	94.563	Secure Mobile Networks	5	CE
Fall 2011	91.563	Data Communications I	36	G
Fall 2011	91.350/580	Developing Android Apps	30	UG/G
Spring 2012	91.414/564	Data Communications II	30	UG/G
Spring 2012	94.563	Secure Mobile Networks	16	CE
Fall 2012	94.563	Secure Mobile Networks	22	CE
Spring 2013	91.201	Computing III	31	UG
Spring 2013	91.350/580	Mobile Usability	31	UG/G
Fall 2013	91.413	Data Communications I	16	UG
Fall 2013	94.563	Secure Mobile Networks	25	CE
Spring 2014	91.414	Data Communications II	8	UG
Spring 2014	91.350/580	Developing Android Apps	46	UG/G
Fall 2014	94.563	Secure Mobile Networks	30	CE
Fall 2014	91.580	Developing Android Apps	30	G
Spring 2015	91.580	Ubiquitous Computing	8	G
Spring 2015	91.350	Developing Android Apps	29	UG

## **VII. SERVICE ACTIVITIES**

### **A. University and Departmental Services**

1. Department Faculty Search Committee Chair, 2014-2015
2. UML DifferenceMaker Faculty Fellow, 2014—2015
3. Department Operations Committee, 2014— 2016.
4. Faculty Senate, 2013 – 2015
5. University Replenishment Committee, 2013 - 2014
6. Department Operations Committee, 2011— 2012.
7. Department Faculty Search Committee, 2011—2012.
8. Department Colloquium Coordinator, 2010—2011.
9. UML 2020 Fostering an Inclusive Campus Committee, 2009—2010.
10. Department Graduate Committee, 2008—2010.
11. Department Newsletter Editor, 2008—2009.
12. Department Operational Committee, 2007—2008.

### **B. Funding Agency Review Panels and Workshops**

1. Qatar National Research Fund (QNRF) proposal reviewer. February 2015.
2. National Science Foundation (NSF) proposal ad hoc reviewer. May 2014.
3. Qatar National Research Fund (QNRF) proposal reviewer. February 2014.
4. Qatar National Research Fund (QNRF) proposal reviewer. February 2013.
5. Qatar National Research Fund (QNRF) proposal reviewer. February 2012.
6. National Science Foundation (NSF) proposal panelist. March 2011.
7. Qatar National Research Fund (QNRF) proposal reviewer. February 2011.
8. The Future Internet Summit sponsored by National Science Foundation (NSF). October 2009. Hosted by Dr. Darleen Fisher.
9. Stage 1 Proposal Reviewer for National Institute of Health (NIH) Challenge Grant. June 2009. Hosted by Dr. Claire E. Gutkin.

### **C. Conference Committees and Services**

#### **Chairing**

1. Tutorial and Panel Co-Chair. The 12<sup>th</sup> IEEE International Conference on Ubiquitous Intelligence and Computing (UIC), Beijing, China, August 2015.
2. International Liaison Chair. The 11<sup>th</sup> IEEE International Conference on Ubiquitous Intelligence and Computing (UIC), Bali Island, Indonesia, December 2014.
3. Local Arrangement Chair. The 12th International Conference on Mobile Systems, Applications, and Services (MobiSys), Bretton Woods, NH, June 2014.
4. Workshop Committee Co-Chair. The 4<sup>th</sup> IEEE International Conference on Healthcare Informatics (ICHI), Verona, Italy, September 2014.
5. Session Chair, Panelist. The Second ACM SIGHIT International Health Informatics Symposium (IHI), Miami, FL. January 2012.
6. Session Chair. The 3rd International Conference on Mobile Computing, Applications, and Services (MobiCASE), Los Angeles, CA. October 2011.
7. Program Co-Chair. The International Conference on Ubiquitous and Intelligent Conference (UIC), Xi'an, China. October 2010.

8. General Co-Chair. The Workshop on Social Networks, Applications, and Systems (SNAS), Boston, MA. August 2009.
9. Workshop Committee Chair. The International Conference on Wireless Algorithms, Systems, and Applications (WASA), Boston, MA. August 2009.

**Technical Program Committee (TPC) member**

10. IEEE International Conference on Pervasive Computing and Communications (PerCom), Sydney, Australia, March 2016.
11. IEEE International Conference on Healthcare Informatics (ICHI), Dallas, TX, October 2015.
12. International Conference on Smart Health (ICSH), Phoenix, AZ, November 2015.
13. IEEE International Conference on Pervasive Computing and Communications (PerCom), St. Louis, Missouri, USA, March 2015.
14. The 4<sup>th</sup> IEEE International Conference on Healthcare Informatics (ICHI), Verona, Italy, September 2014.
15. The 11th International Conference on Mobile Systems and Pervasive Computing (MobiSPC), Niagara Falls, Ontario, Canada, August 2014.
16. The Tenth International Conference on Intelligent Computing (ICIC), Taiyuan, China. August 2014.
17. International Workshop on Data Mining and Decision Analytics for Public Health and Wellness (DMDA), Tainan, Taiwan, May 2014.
18. The 5th International Workshop on Modeling Social Media: Mining Big Data in Social Media and the Web (MSM), Seoul, Korea, April 2014.
19. International Health Informatics Conference (IHIC), Beijing, China, August 2013.
20. The 8th IEEE International Conference on Networking, Architecture, and Storage (NAS), Xi'an, China, July 2013.
21. The 1<sup>st</sup> International Workshop on Computational Social Networks (CSoNet), Hangzhou, China, June 2013.
22. The IEEE International Conference on Healthcare Informatics (ICHI), Philadelphia, PA, September 2013.
23. The 6th International Conference on Multimedia and Ubiquitous Engineering (MUE), Madrid, Spain, July 2012.
24. The 5th International Conference on Pervasive Technologies Related to Assistive Environments (PETRA), Crete Island, Greece, June 2012.
25. The International Workshop on Sensing, Networking, and Computing with Smartphones (PhoneCom), Macau, China, June 2012.
26. The 7th IEEE International Conference on Networking, Architecture, and Storage (NAS), Xiamen, Fujian, China. June 2012.
27. The First International Symposium on Social and Community Intelligence (SCI), Beijing, China. September 2011.
28. The 2011 IEEE International Conference on Signal Processing, Communications and Computing (ICSPCC), Xi'an, China. September 2011.
29. The Seventh International Conference on Intelligent Computing (ICIC), Zhengzhou, China. August 2011.
30. The 6th IEEE International Conference on Networking, Architecture, and Storage (NAS), Dalian, Liaoning, China. July 2011.
31. The 4th International Conference on Pervasive Technologies Related to Assistive Environments (PETRA), Crete, Greece. May 2011.

32. The IEEE GLOBECOM Workshop on Complex and Communication Networks (CCNet), Miami, FL. December 2010.
33. The IEEE GLOBECOM Symposium on Communication & Information System Security (CISS), Miami, FL. December 2010.
34. The 5th IEEE International Conference on Networking, Architecture, and Storage (NAS), Macau, Macau SAR, China. July 2010.
35. The 3rd International Conference on PErvasive Technologies Related to Assistive Environments (PETRA), Samos Island, Greece. July 2010.
36. The 2nd ACM International Workshop on Hot Topics in Planet-scale Measurement (HotPlanet), San Francisco, CA. June 2010.
37. The 2nd International Symposium on Data, Privacy, & E-Commerce (ISDPE), Buffalo, NY. June 2010.
38. The IEEE ICC Communication and Information System Security Symposium (CISS), Cape Town, South Africa. May 2010.
39. The 7th Annual IEEE Consumer Communications and Networking Conference (CCNC), Las Vegas, NV. January 2010.
40. The Sixth International Conference on Ubiquitous Computing and Intelligence (UIC), Brisbane, Australia. July 2009.
41. The 3rd International Workshop on Localized Algorithms and Protocols for Wireless Sensor Networks (LOCALGOS), Marina Del Rey, CA. June 2009.
42. The 2nd International Conference on PErvasive Technologies Related to Assistive Environments (PETRA), Corfu, Greece. June 2009.
43. The First International Workshop on Pervasive Computing Systems and Infrastructures (PCSI), Seattle, WA. April 2009.
44. IEEE First International Workshop on Network Security and Privacy (NSP), Austin, TX. December 2008.
45. The 2nd ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC), Stanford University, CA. September 2008.
46. The 17th International Conference on Computer and Communications and Networks (ICCCN), Virgin Islands. August 2008.
47. The 4th IET International Conference on Intelligent Environments (IE), Seattle, WA. July 2008.
48. The First International Conference on PErvasive Technologies Related to Assistive Environments (PETRA), Athens, Greece. July 2008.
49. Information, Network, and Communications Security Track at General Symposium of IEEE Global Communications Conference (GLOBECOM), Washington, DC. November 2007.
50. The First International Symposium on Data, Privacy, & E-Commerce (ISDPE), Chengdu, China. November 2007.
51. International Conference on Distributed Smart Cameras (ICDSC), Vienna, Austria. September 2007.
52. The International Conference on Autonomic and Trusted Computing (ATC), Hong Kong, China. July 2007.
53. The 4th International Conference on Ubiquitous Intelligence and Computing (UIC), Hong Kong, China. July 2007.
54. IFIP International Symposium on Network-Centric Ubiquitous Systems (NCUS), Seoul, Korea. August 2006.

55. IFIP International Symposium on Network-Centric Ubiquitous Systems (NCUS), Nagasaki, Japan. December 2005.
56. International and Interdisciplinary Conference on Modeling and Using Context (CONTEXT), Pairs, France. July 2005.
57. International Workshop on Managing Context Information in Mobile and Pervasive Environments (MCMP), Ayia Napa, Cyprus. May 2005.

#### **D. Reviews for Journals**

1. Sensors. Invited by Dr. Hongliu Chen. 2015.
2. IEEE Communications Magazine. Invited by Joseph Milizzo. 2014.
3. International Journal of Sustainable Transportation. Invited by Dr. S.C. Wong. 2013.
4. IEEE Pervasive Computing. Invited by Dr. Maria Ebling. 2012.
5. Behaviour & Information Technology. Invited by Gisela Cakir. 2012.
6. IEEE Pervasive Computing. Invited by Dr. Maria Ebling. 2011.
7. IEEE Transactions on Computer. Invited by Dr. Renato Figueiredo. 2011.
8. Proceedings of the IEEE. Invited by Dr. Jim Calder. 2011.
9. IEEE Communications. Invited by Dr. Raj Jain. 2011.
10. Journal of Multi-Criteria Decision Analysis. Invited by Dr. Luis Vargas. 2011.
11. IEEE Pervasive Computing. Invited by Dr. Chandra Narayanaswami. 2010.
12. IEEE Computer. Invited by Dr. Ron Vetter. 2010.
13. Journal of Expert Systems. Invited by Dr. Chandra Amaravadi. 2010.
14. IEEE Transaction on Mobile Computing. Invited by Dr. Saurabh Bagchi. 2010.
15. International Journal of Universal Computer Science. Invited by Dr. Jose A. Gallud. 2010.
16. IEEE Pervasive Computing. Invited by Dr. Anind Dey. 2009.
17. Journal of Network and Computer Applications. Invited by Dr. Uffe Kock Wiil. 2009.
18. IEEE Security and Privacy. Invited by Drs. Shari Lawrence Pfleeger and Sal Stolfo. 2009.
19. Springer Distributed and Parallel Databases. Invited by Dr. Anupam Joshi. 2009.
20. Journal of Network and Computer Applications. Invited by Dr. Mohammed Atiquzzaman. 2009.
21. Springer Journal of Personal and Ubiquitous Computing. Invited by Dr. Ilias Maglogiannis. 2009.
22. Wiley Expert Systems: The Journal of Knowledge Engineering. Invited by Dr. Li Xu. 2008.
23. ACM Computing Surveys. Invited by Dr. Lorenzo Alvisi. 2007.
24. Elsevier Journal of Pervasive and Mobile Computing. Invited by Dr. Franco Zambonelli. 2007.
25. Elsevier Journal of Transportation Research Part C: Emerging Technologies. Invited by Dr. Joseph N. Prashker. 2007.
26. Electronics and Telecommunications Research Institute Journal. Invited by Dr. Bun Lee. 2006.
27. Elsevier Journal of Pervasive and Mobile Computing. Invited by Dr. Franco Zambonelli. 2006.
28. Springer Journal of Wireless Networks. Invited by Dr. Bulent Yener. 2006.
29. ACM Transactions on Software Engineering and Methodology. Invited by Dr. Carlo Ghezzi. 2006.
30. IEEE Transaction on Mobile Computing. Invited by Dr. Wenwu Zhu. 2005.

### **E. Reviews for Conferences and Book Proposals**

1. The 2015 ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp), September 2015. Invited by Dr. Daqing Zhang.
2. The 2014 ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp), September 2014. Invited by Dr. Anind Dey.
3. International Symposium on Science 2.0 and Expansion of Science (S2ES), Orlando, FL. June 2010. Invited by Dr. Victor Milenkovic.
4. International Conference on Ubiquitous Computing (UbiComp), Seoul, South Korea. September 2008. Invited by Dr. Daqing Zhang.
5. International Conference on Ubiquitous Computing (UbiComp), Innsbruck, Austria. September 2007. Invited by Dr. Daqing Zhang.
6. IEEE Wireless Communications and Networking Conference (WCNC), New Orleans, LA. March 2005. Invited by Dr. Gam Nguyen.
7. Data and Computer Communications, 7th edition by William Stallings. Prentice Hall Publishing. 2005.
8. Context and Context Logics, by Fausto Giunchiglia and Luciano Serafini. Morgan Kaufmann Publishers. 2005.
9. Pervasive Computing: An Application-Based Approach, by Guruduth Banavar, Norman Cohen, Elizabeth Mynatt and Chandra Narayanaswami. Addison-Wesley Professional / Prentice Hall PTR. 2005.

### **F. Professional Membership**

1. Association for Computing Machinery (ACM).
2. ACM Special Interest Group on Mobility of Systems, Users, Data, and Computing (SIGMOBILE).
3. Institute of Electrical and Electronics Engineers (IEEE) Computing Society.
4. The Advanced Computing Systems Association (USENIX).

### **G. Community and Outreach Services**

1. Merrick Valley Sandbox Mentor. October 2013 – present.
2. WUML radio interview to discuss online social networks. October 8, 2008.
3. Campus research exhibit for local high school guidance counselors. April 2, 2008.
4. Consultant on preparing a grant proposal to Navy SBIR, Erallo Technologies, Inc., Littleton, MA. January 2007.

### **VIII. INVITED TALKS AND PRESENTATIONS**

1. Hacking Personal Health Behaviors. Tutorial at the 12<sup>th</sup> IEEE International Conference on Ubiquitous Intelligence and Computing (UIC), Beijing, China, August 10, 2015.
2. Anticipatory Smartphone Computing. Invited Colloquium Speaker, WPI, December 12, 2014. (Host: Krishna Kumar Venkatasubramanian)
3. The Utility of Context Awareness for Behavioral Health. Invited Speaker, The Seventh ASE International Conference on Social Computing (SocialCom), August 5, 2014. (Host: Alvin Chin)
4. New Directions of Research and Development in US Healthcare. Invited Colloquium Speaker, Zhengzhou University, July 29, 2014. (Host: Yusong Lin)
5. Promoting Behavior Health Through Smartphone And Wearable Sensing. Invited Colloquium Speaker, Nanjing University, July 14, 2014. (Host: Linzhang Wang)

6. Context Awareness: The Next Mobile Frontier. Invited Workshop Speaker, Wireless Innovation Council, April 2, 2014. (Host: Scott Snyder)
7. Towards A Personalized Health Companion. Invited Colloquium Speaker, Northwestern Polytechnical University, Xi'an, China. October 23, 2013. (Host: Zhiwen Yu)
8. Usability and Functional Testing of Mobile Apps. Invited Colloquium Speaker, University of Texas Arlington, Arlington, TX. April 12, 2013. (Host: Fillia Makedon)
9. Research Challenges in the Era of Mobile Apps. Invited Colloquium Speaker, Institute of Software, Nanjing University, Nanjing, China. October 4, 2012. (Host: Tao Zheng)
10. A Toolkit for Usability Testing of Mobile Applications. Invited Colloquium Speaker, Department of Computer Science, Nanjing University, Nanjing, China. October 21, 2011. (Host: Linzhang Wang)
11. Sharing Location over Social Media. Invited Keynote Speaker, The 2nd International Workshop on Modeling Social Media: User Interface Modeling in Social Media (MSM), Boston, MA. October 9, 2011. (Host: Alvin Chin)
12. AppJoy: Personalized Mobile Application Discovery. Colloquium, Department of Computer Science, UMass Dartmouth, April 27, 2011. (Host: Ken C.K. Lee)
13. Social Media and My Health. Invited Panel. 1st ACM International Health Informatics Symposium, November 12, 2010. (Host: Courtney D. Corley)
14. Some Perspectives on Context-Aware Mobile Computing. Colloquium, Department of Computer Science, Nanjing University, October 26, 2010. (Host: Xianping Tao)
15. Collective Location Intelligence. Invited Talk at Skyhook Wireless Inc., October 21, 2010. (Host: Farshid Alizadeh)
16. A Study of Brightkite: Connecting People Through Places They Visited. Invited Panel, Workshop on HotPlanets, June 15, 2010. (Host: Tristan Henderson)
17. A Study of Brightkite: Connecting People Through Places They Visited. Invited Panel, Workshop on Opportunistic Localization for Smart Devices, June 14, 2010. (Host: Kaveh Pahlavan)
18. Remote patient monitoring: A behavioral change Perspective. Invited Panel, American Telemedicine Association Annual Conference, May 17, 2010. (Host: Shoshana Loeb)
19. Social Networks and Future Internet. Presentation, Future Internet Summit, October 15, 2009. (Host: National Science Foundations (NSF))
20. IEEE 802.11 Wireless Networks and Security. Seminar, Department of Computer Science, Zhengzhou University, China, January 12, 2009. (Host: Yusong Lin)
21. IEEE 802.11 Wireless Networks and Security. Seminar, Shandong Computer Science Center, China, January 15, 2009. (Host: Chunjie Li)
22. MAP: A scalable infrastructure for securing 802.11 wireless networks. Seminar, Department of Computer Science and Engineering, University of Connecticut, November 14, 2008. (Host: Bing Wang)
23. Increasing the values of location-based applications for end users. Panel, Invitational Workshop on Opportunistic RF Localization for Next Generation Wireless Devices, June 17, 2008. (Host: Kaveh Pahlavan)
24. MAP: A scalable infrastructure for securing 802.11 wireless networks. Seminar, Department of Electrical & Computer Engineering, Worcester Polytechnic Institute, April 5, 2007. (Host: Wenjing Lou)
25. MAP: A scalable infrastructure for securing 802.11 wireless networks. Colloquium, Department of Computer Science, UMass Boston, April 4, 2007. (Host: Jun Suzuki)

26. MAP: A scalable infrastructure for securing 802.11 wireless networks. Colloquium, Department of Computer Science, Worcester Polytechnic Institute, January 19, 2007. (Host: Craig Wills)
27. Securing Wi-Fi networks. Colloquium, Department of Computer Science, UMass Dartmouth, April 28, 2006. (Host: Li Shen)
28. Recent developments on wireless mesh networks. Seminar, Center for Network and Information Security, UMass Lowell, October 21, 2005. (Host: Jie Wang)
29. Wireless LAN: Measurement and analysis. Colloquium, Department of Computer Science, Northeastern University, April 25, 2005. (Host: Peter Tarasewich)
30. Wireless LAN: Mobility & traffic analysis. Colloquium, Department of Computer Science, UMass Lowell, March 23, 2005. (Host: Tom Costello)