Hong Lu

CONTACT INFORMATION

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RESEARCH INTERESTS

Areas: ubiquitous computing, machine learning, sensing system, context awareness.

I am a senior research scientist in Intel Labs working on developing sensing systems and machine learning techniques that collect and reason about complex sensor data. I have over 10 years of experience in applying AI to the areas of human behavior modeling, context understanding, and recently high volume manufacturing. As part of my research, I create mobile systems that sense, inform, assist, and influence people. My work has been productized in various Intel commercial products and deployed in Intel manufacturing facilities. I published my research findings in top-tier pervasive computing and machine learning conferences. My current h-index is 26 and I have over 8000 citations according to Google Scholar.

EDUCATION

Ph.D., Computer Science, **Dartmouth College** Sep. 2006 - May. 2012
Hanover NH, USA
- Thesis: Smartphone Sensing and Inference of Human Behavior and Context

M.S., Computer Science, **Tianjin Unviersity** Sep.2003 - Jun. 2006
Tianjin, China
- Thesis: An Enhanced Weighted Clustering Algorithm for Mobile Ad Hoc Networks

B.S., Computer Science, **Tianjin Unviersity** Sep. 1999 - Jun. 2003
Tianjin, China

PROFESSIONAL EXPERIENCE

Research Scientist May. 2012 - present
Intel Labs, Santa Clara, CA
My research in Intel Labs is currently focused on pushing AI to mobile devices and to Intel manufacturing process. I develop systems to collect and analysis complex data with application scenarios spanning from low-power mobile devices to complex industrial manufacturing environments. I built prototype applications to make inferences about human activities, context, social interactions, and life routines. These systems provide a rich understanding of people's everyday life and create mobile technologies for better user experience. I also work on develop ML systems to see through large volume of manufacturing data to improve manufacturing efficiency and product quality.

Research Intern Jun. 2010 - Sep. 2010
Microsoft Research, Redmond WA
I studied continuous audio sensing and speaker identification on heterogeneous multi-processor mobile phone architecture. I implemented a prototype on HTC HD2 smart phone with LittleRock sensor board. One patent is filed and the SpeakerSense paper accepted by Pervasive 2011 (Best Paper Nominee).

Research Intern Jun. 2009 - Dec. 2009
Nokia Research Center, Palo Alto, CA
I designed and implemented Jigsaw, a robust context/activity recognition engine for smart phones using the on-board accelerometer, microphone and GPS sensors. I developed a daily activity tracking and logging application with the Jigsaw engine on Nokia N900 smartphone. Three IPs and one patent are filed and Jigsaw paper accepted by SenSys 2010.

Publications

According to Google Scholar, I have over 8000 citations and my h-index is 26 . For a complete list of my publications, please visit my google scholar page.

Selected Professional Activities

- Associate Editor of ACM, Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT) Journal.
- Registrations Chair of The 15th ACM International Conference on Mobile Systems, Applications, and Services (Mobisys 2017), Niagara Falls, NY, USA
- Program committee (TPC) member of The 16th ACM/IEEE International Conference on Information Processing in Sensor Networks (IPSN 2017), Pittsburgh, Pennsylvania, USA.
- Program committee (PC) member of The 2015 ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp 2015), Umeda, Osaka, Japan.
- Posters and Demos Chair of The 12th International Conference on Mobile Systems, Applications, and Services (MobiSys 2014), Bretton Woods, NH, USA.
- Technical program committee (TPC) member of MobiSense, in conjunction with Pervasive 2011, San Francisco, USA.

Selected News and Press

- Your phone can recognize you by the way you walk, VBNews, September 2013.
- Smartphone that feels your strain, NewScientist, August 2012.
- Voice-Stress Software Is Put to the Test, PhysOrgandACMTech, August 2012.
- The Cyborg in us all, theNYTimesMagazine, September 2011.
- Nokia toys with context-aware smartphone settings switch, Jigsaw provides better context for apps like this, Engadget, Nov 2010.
- Smartphone app monitors your every move, NewScientist, 26 November 2010.
- Mobile Phone Mind Control, TechnologyReview, March, 2010.
- Cell phones that listen and learn, TechnologyReview, June, 2009.
- Cell Phones That Learn the Sounds of Your Life, Slashdot, July, 2009.

Expertise

Programming Language: JAVA, Python, MATLAB, C.

Operating Systems: Linux, Android