

# Sheng Shen

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## RESEARCH INTERESTS

Mobile Computing, Wearable Devices, Wireless Networking, Localization and Tracking, Internet of Things (IoT)

## EDUCATION

**University of Illinois at Urbana-Champaign** 2014 - Present  
Ph.D. Student, Electrical and Computer Engineering  
Advisor: Professor Romit Roy Choudhury

**University of Science and Technology of China** 2010 - 2014  
B.E., Electrical Engineering

## INDUSTRY EXPERIENCE

**Intel / Sequoia Applied Technologies** 05/2016 – 08/2016  
*Research Intern, Working with Intel New Devices Group*  
Sports analytics and human motion analysis with IMU sensors. In NSDI 2017.

**Microsoft Research Asia** 07/2013 - 05/2014  
*Research Intern, Mobile and Sensing Systems Group*  
Indoor localization, device sensor sharing and mobile indoor 3D map building.  
Two demos at Microsoft Techfest 2014.

## PUBLICATIONS

Closing the Gaps in Inertial Motion Tracking  
**Sheng Shen**, Mahanth Gowda, Romit Roy Choudhury  
**ACM MobiCom 2018**

MUTE: Bringing IoT to Noise Cancellation  
**Sheng Shen**, Nirupam Roy, Junfeng Guan, Haitham Hassanieh, Romit Roy Choudhury  
**ACM SIGCOMM 2018**

Inaudible Voice Commands: The Real-World Attack and Defense  
Nirupam Roy, **Sheng Shen**, Haitham Hassanieh, Romit Roy Choudhury  
**NSDI 2018**

Bringing IoT to Sports Analytics  
Mahanth Gowda, Ashutosh Dhekne\*, **Sheng Shen\***, Romit Roy Choudhury, Xue Yang, Lei Yang, Alex Essanian, Suresh Golwalkar  
**NSDI 2017** (\*Co-second author)

I am a Smartwatch and I can Track my User's Arm  
**Sheng Shen**, He Wang, Romit Roy Choudhury  
**ACM MobiSys 2016**

AutoLabel: Labeling Places from Pictures and Websites  
Rufeng Meng, **Sheng Shen**, Romit Roy Choudhury, Srihari Nelakuditi  
**ACM UbiComp 2016**

Matching Physical Sites with Web Sites for Semantic Localization  
Rufeng Meng, **Sheng Shen**, Romit Roy Choudhury, Srihari Nelakuditi  
**Workshop on Physical Analytics, ACM MobiSys 2015**

Dynamic Advance Reservation Multicast in Data Center Networks Over Elastic Optical Infrastructure  
**Sheng Shen**, Wei Lu, Xiahe Liu, Long Gong, Zuqing Zhu  
**ECOC 2013**

## **POSTERS/DEMOS/ABSTRACTS**

**Poster:** (Invited) Bringing IoT to Noise Cancellation  
**Sheng Shen**, Nirupam Roy, Junfeng Guan, Haitham Hassanieh, Romit Roy Choudhury  
**ACM SIGCOMM 2018**

**Poster:** (Invited) Inaudible Voice Commands  
Nirupam Roy, **Sheng Shen**, Haitham Hassanieh, Romit Roy Choudhury  
**NSDI 2018**

**Extended Abstract:** Arm Posture Tracking Using a Smartwatch  
**Sheng Shen**  
**ACM MobiSys 2016 PhD Forum**

## **PATENTS**

Body Movement Tracking  
US 20180153444 A1, pending. Co-authored with researchers from Intel

## **INVITED TALKS**

**Invited Colloquium Speaker, Univ. of Sci. and Tech. of China** Hefei, Anhui, China  
Title: Internet of Acoustic Things May 28, 2018

**Feedback Friday in Computer Engineering, Univ. of Illinois** Champaign, IL, USA  
Title: Networked Noise Cancellation March 30, 2018

**Admitted Graduate Student Day, Univ. of Illinois** Champaign, IL, USA  
Title: Inaudible Voice Commands March 5, 2018

## **TEACHING EXPERIENCE**

TA, ECE498: Mobile Computing and Applications Spring 2018  
TA, ECE598: Mobile Sensing and Sensor Fusion Spring 2017

## PROFESSIONAL ACTIVITIES

- **Invited Reviewer:** IEEE Transactions on Mobile Computing  
IEEE GLOBECOM AHSN Symposium, 2017  
ACM IMWUT (formerly UbiComp), 2017
- **TPC Member:** SENSORCOMM, 2018  
AMBIENT, 2017 | 2018  
ACM S3 Workshop, 2017 | 2018  
ACM MobiSys Ph.D. Forum, 2017

## AWARDS

University of Illinois Yee Fellowship	2018
University of Illinois Dr. Ok Kyun Kim Fellowship	2018
NSDI'18 Student Travel Grant	2018
University of Illinois Rambus Fellowship	2017
ACM MobiSys'16 Student Travel Grant	2016
Coordinate Science Lab Video-of-the-Month Award	2016
Outstanding Student Scholarship, Univ. of Sci. and Tech. of China	2011, 12, 13, 14
Microsoft Research Asia Young Fellowship	2013

## RELEVANT COURSES

- **Mobile Computing and Wireless Networks**  
Smartphone Computing and Application  
Communication Networks  
Advanced Computer Networks  
Wireless Networks and Mobile Systems
- **Machine Learning and Signal Processing**  
Machine Learning  
Machine Learning for Signal Processing  
Digital Signal Processing II
- **Miscellaneous**  
Introduction to Optimization  
Random Processes  
Computer Vision  
Computer Security I  
Social Sensing