

Sheng Shen

241 Coordinated Science Lab
1308 W Main Street,
Urbana, IL 61801, USA

ssheng19@illinois.edu
<https://ssheng19.ece.illinois.edu/>

RESEARCH INTERESTS

Mobile/Wearable Computing, Wireless Networking and Sensing, 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, Intel New Devices Group
Sports analytics and human motion analysis with IMUs. Paper 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 (Featured on BBC World News Radio)

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 (**Co-second author*)
NSDI 2017 (Featured on ACM GetMobile magazine cover)

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: Networked Acoustics Around Human Ears
Sheng Shen, Nirupam Roy, Junfeng Guan, Haitham Hassanieh, Romit Roy Choudhury
ACM MobiCom 2018

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
Title: Internet of Acoustic Things
Hefei, Anhui, China
May 28, 2018

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

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

TEACHING EXPERIENCE

TA, ECE/CS 438: Communication Networks	Fall 2018
TA, ECE/CS 498: Mobile Computing and Applications	Spring 2018
TA, ECE/CS 598: Mobile Sensing and Sensor Fusion	Spring 2017

PROFESSIONAL ACTIVITIES

- **Invited Reviewer:** IEEE Transactions on Mobile Computing
ACM IMWUT (formerly UbiComp)
IEEE Wireless Communications Letters
- **TPC Member:** ACM S3 Workshop, 2017 | 2018
ACM MobiSys Ph.D. Forum, 2017

AWARDS

- **University of Illinois at Urbana-Champaign:**
Yee Fellowship 2018
Dr. Ok Kyun Kim Fellowship 2018
Rambus Fellowship 2017
- **Others:**
NSDI'18 Student Travel Grant 2018
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