KE SUN

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BIOGRAPHY

I am a first year Ph.D. student in Computer Science and Engineering at the University of California, San Diego, advised by Prof. Xinyu Zhang. My research interests are broadly including mobile computing, IoT security & privacy and human-computer interaction.

EDUCATION

University of California, San Diego *Sep 2019 - Present*
Ph.D. in Computer Engineering
Supervisor: Prof. Xinyu Zhang

Nanjing University *Sep 2016 - Jun 2019*
M.S. in Computer Science and Engineering
Supervisor: Prof. Wei Wang

Nanjing University of Aeronautics and Astronautics *Sep 2012 - Jun 2016*
B.S. in Computer Science and Engineering
Undergraduate President Award, Undergraduate Achievement Award

PUBLICATION

- Dynamic Speed Warping: Similarity-Based One-shot Learning for Device-free Gesture Signals
  Xun Wang, **Ke Sun**, Ting Zhao, Wei Wang, Qing Gu
  IEEE INFOCOM 2020, April 2020 (To appear).

- SpiderMon: Towards Using Cell Towers as Illuminating Sources for Keystroke Monitoring
  Kang Ling, Yuntang Liu, **Ke Sun**, Wei Wang, Lei Xie, Qing Gu
  IEEE INFOCOM 2020, April 2020 (To appear).

- VSkin: Sensing Touch Gestures on Surfaces of Mobile Devices Using Acoustic Signals
  Ke Sun, Ting Zhao, Wei Wang, Lei Xie
  ACM MobiCom, Oct 2018.

- Unlock With Your Heart: Heartbeat-based Authentication on Commercial Mobile Phones
  Lei Wang, Kang Huang, **Ke Sun**, Wei Wang, Chen Tian, Lei Xie, Qing Gu
  ACM IMWUT 2018 (Ubicomp 2018), Oct 2018.

- Depth Aware Finger Tapping on Virtual Displays
  Ke Sun, Wei Wang, Alex X. Liu, Haipeng Dai
  ACM MobiSys, Jun 2018.

- WiTrace: Centimeter-Level Passive Gesture Tracking Using WiFi Signals
  Lei Wang, **Ke Sun**, Haipeng Dai, Alex X. Liu, Xiaoyu Wang
  IEEE SECON, Jun 2018.

- Device-free Gesture Tracking Using Acoustic Signals
  Wei Wang, Alex X. Liu, **Ke Sun**
  ACM MobiCom, Oct 2016. (MIT Technology Review)

SELETED HONORS

- **ACM MobiSys Student Travel Grant**   2018
- **Graduate China National Scholarship**   2018
- **Undergraduate Achievement Award**   2016
- **Outstanding Undergraduate Award**   2016
- **Undergraduate President Award**   2015
- **Undergraduate China National Scholarship**   2014

SELETED AWARDS

- 2017 China National College Competition on Internet of Things **Finals First Prize**
  Project: Ultrasound based Sensing Applications for Mobile Devices   Oct 2017
- 2015 ACM-ICPC Asia Regional Contest(Chang Chun Site)
  Gold Medal   Oct 2015
- 2014 ACM-ICPC China Shanghai Metropolitan Programming Contest
  Silver Medal   May 2014
- 2013 ACM-ICPC China TongHua Invitational Programming Contest
  Silver Medal   May 2013

PROJECT

1. **HCI Systems based on Acoustic/RF Signals**

   - One-shot Learning for In-air Gesture (INFOCOM 20)
   - Sensing Touch Gestures (MobiCom 18)
   - Depth-aware Finger Tapping on Virtual Display (MobiSys 18)
   - In-air Gesture Tracking (MobiCom 16, SECON 18, TMC 19) **MIT Technology Review**

2. **IoT Security & Privacy**

   - LTE based Keystroke Monitoring (INFOCOM 20)
   - Heartbeat-based Authentication (UbiComp 18)
   - Speech Privacy Protection (On-going)

EXPERIENCE

Intern

- Huawei Hisilicon Audio Lab, Shanghai, China   Aug 2018
  In-air Gesture Tracking on Mobile Devices

Reviewer

- 2020 IEEE TMC
- 2020 ACM IMWUT
- 2017 ICCCS