

# JIALIN LIU

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## RESEARCH INTERESTS

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Wireless sensing, mobile computing, human-computer interaction, wireless networking

## EDUCATION

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**Dalian University of Technology**, Dalian, China 2017–2022

*Ph.D.* in Software Engineering

*Dissertation*: The Research on Acoustic-Based Passive Sensing Methods on Smart Devices

*Advisor*: Prof. Lei Wang

**Dalian University of Technology**, Dalian, China 2015–2017

*M.Eng.* in Software Engineering

**Dalian University of Technology**, Dalian, China 2011–2015

*B.Eng.* in Software Engineering

## EXPERIENCE

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**University of Massachusetts Amherst**, Amherst, MA 2019–2022

*Visiting Scholar*, Manning College of Information and Computer Sciences

*Advisor*: Prof. Jie Xiong

**Dalian University of Technology**, Dalian, China 2015–2019

*Research Assistant*, Wireless Lab for Networking and Applications (WiLNA)

*Advisor*: Prof. Lei Wang

## PUBLICATIONS

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- [1] D. Li, **J. Liu**, S. I. Lee, and J. Xiong, “LASense: Pushing the Limits of Fine-grained Activity Sensing Using Acoustic Signals” in *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT/UbiComp ’22)*, 2022
- [2] Z. Gao, A. Li, D. Li, **J. Liu**, J. Xiong, Y. Wang, B. Li, and Y. Chen, “MOM: Microphone based 3D Orientation Measurement” in *Proceedings of the 20th International Conference on Information Processing in Sensor Networks (IPSN ’22)*, 2022
- [3] **J. Liu**, D. Li, L. Wang, and J. Xiong, “BlinkListener: “Listen” to Your Eye Blink Using Your Smartphone” in *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT/UbiComp ’21)*, 2021
- [4] D. Li, **J. Liu**, S. I. Lee, and J. Xiong, “FM-track: pushing the limits of contactless multi-target tracking using acoustic signals” in *Proceedings of the 18th Conference on Embedded Networked Sensor Systems (SenSys ’20)*, 2020
- [5] Z. Qin, Y. Sun, J. Hu, W. Zhou, and **J. Liu**, “Enhancing efficient link performance in ZigBee under cross-technology interference”, *Mobile Networks and Applications*, vol. 25, no. 1, pp. 68–81, 2020
- [6] L. Guo, L. Wang, C. Lin, **J. Liu**, B. Lu, J. Fang, Z. Liu, Z. Shan, J. Yang, and S. Guo, “Wiar: A public dataset for wifi-based activity recognition”, *IEEE Access*, vol. 7, pp. 154935–154945, 2019
- [7] B. Lu, L. Wang, **J. Liu**, W. Zhou, L. Guo, M.H. Jeong, S. Wang, and G. Han, “LaSa: location aware wireless security access control for IoT systems”, *Mobile Networks and Applications*, vol. 24, no. 3, pp. 748–760, 2019
- [8] L. Sun, L. Wang, J. Fang, **J. Liu**, and C. Ma, “MIHBS: A Mobile Interface of High Bandwidth for Wireless Sensor Networks”, *IEEE Access*, vol. 7, pp. 8235–8244, 2018
- [9] **J. Liu**, L. Wang, J. Fang, L. Guo, B. Lu, and L. Shu, “Multi-Target Intense Human Motion Analysis and Detection Using Channel State Information”, *Sensors*, vol. 18, no. 10, pp. 3379, Oct. 2018.

- [10] W. Zhou, L. Wang, B. Lu, N. Jin, L. Guo, **J. Liu**, H. Sun, and H. Liu, “Unmanned aerial vehicle detection based on channel state information” in *IEEE International Conference on Sensing, Communication and Networking (SECON ’18 Workshops)*, 2018
- [11] J. Fang, L. Wang, Z. Qin, **J. Liu**, and B. Lu, “GCC: Group-based CSI feedback compression for MU-MIMO networks”, *Mobile Networks and Applications*, vol. 23, no. 3, pp. 407–418, 2018
- [12] L. Guo, L. Wang, **J. Liu**, W. Zhou, and B. Lu, “HuAc: Human activity recognition using crowdsourced WiFi signals and skeleton data”, *Wireless Communications and Mobile Computing*, vol. 2018, 2018
- [13] **J. Liu**, L. Wang, L. Guo, J. Fang, B. Lu, and W. Zhou, “A Research on CSI-based human Motion Detection in Complex Scenarios” in *IEEE 19th International Conference on e-Health Networking, Applications and Services (Healthcom ’17)*, 2017
- [14] L. Guo, L. Wang, **J. Liu**, W. Zhou, B. Lu, T. Liu, G. Li, and C. Li, “A novel benchmark on human activity recognition using WiFi signals” in *IEEE 19th International Conference on e-Health Networking, Applications and Services (Healthcom ’17)*, 2017
- [15] J. Fang, L. Wang, Z. Qin, **J. Liu**, and B. Lu, “LFC: Adaptive location-based CSI feedback compression for MU-MIMO networks” in *International Smart Cities Conference (ISC2)*, 2017
- [16] L. Guo, L. Wang, **J. Liu**, and W. Zhou, “A survey on motion detection using WiFi signals” in *12th International Conference on Mobile Ad-Hoc and Sensor Networks (MSN)*, 2016

## HONORS & AWARDS

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| Duke ECE Diversity Award  | 2023 |
| CSC Scholarship   | 2019 |
| Technological Innovation Individual Award   | 2018 |
| China Graduate Contest on Application, Design and Innovation of Mobile-Terminal, Second Prize | 2017 |
| China National Scholarship of Graduates   | 2015 |
| Mitsubishi Chemical Scholarship   | 2013 |