

SHORT BIO

Hu Changshuo is currently a Ph.D. candidate in Computer Science at Singapore Management University, under the supervision of Professor Dong Ma. His research interests encompass mobile computing and pervasive sensing, with a particular focus on authentication, running monitoring, and interaction using earables.

EDUCATION

School of Computing and Information Systems, Singapore Management University
Singapore

Ph.D. Candidate in Computer Science

Jan. 2024 – Present

- Advisor: Prof. Dong Ma

School of Computer Science and Engineering, University of New South Wales Sydney, Australia

M.I.S. in Information Systems

Jan. 2018 – Jan. 2020

- Advisor: Prof. Mahbub Hassan

College of Information Engineering, Capital Normal University

Beijing, China

B.E. in Computer Science and Technology

Sept. 2012 – June 2016

PUBLICATIONS

1. **Changshuo Hu***, Manh Pham Hung*, Dong Ma. Morphology-Aware HRV Estimation from Wrist PPG in Sedentary Scenarios. *11th Workshop on Body-Centric Computing Systems, Co-located with UbiComp / ISWC*, 2025.
2. **Changshuo Hu**, Xiao Ma, Xinger Huang, Yiran Shen, Dong Ma. LR-Auth: Towards Practical Implementation of Implicit User Authentication on Earbuds. *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT)*, 2024.
3. **Changshuo Hu**, Thivya Kandappu, Jake Stuchbury-Swaks, Yang Liu, Anthony Tang, Cecilia Mascolo, Dong Ma. Detecting Foot Strikes during Running with Earbuds. *10th Workshop on Body-Centric Computing Systems, Co-located with ACM MobiSys*, 2024.
4. **Changshuo Hu**, Thivya Kandappu, Yang Liu, Cecilia Mascolo, Dong Ma. BreathPro: Monitoring Breathing Mode during Running with Earables. *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT)*, 2024.
5. **Changshuo Hu**, Xiao Ma, Dong Ma, Ting Dang. Lightweight and Non-Invasive User Authentication on Earables. *Proceedings of the 24th International Workshop on Mobile Computing Systems and Applications (HotMobile)*, 2023.
6. Dong Ma, Guohao Lan, **Changshuo Hu**, Mahbub Hassan, Wen Hu, Mushfika B Upama, Ashraf Uddin, Moustafa Youssef. Recognizing hand gestures using solar cells. *IEEE Transactions on Mobile Computing*, 2022.
7. **Changshuo Hu**, Dong Ma, Mahbub Hassan, Wen Hu. Data Communication using Switchable Privacy Glass. *19th ACM/IEEE International Conference on Information Processing in Sensor Networks (IPSN)*, 2020.
8. **Changshuo Hu**, Dong Ma, Mahbub Hassan, Wen Hu. NLC: natural light communication using switchable glass. *IEEE INFOCOM 2020 – IEEE Conference on Computer Communications Workshops (INFOCOM WKSHPS)*, 2020.

* denotes co-primary authorship

ACADEMIC SERVICES

- Invited Reviewer for **IMWUT**
- Website Chair at *BodySys Workshop 2024*, co-located with *MobiSys 2024*
- Website Chair at *SmartWear Workshop 2023*, co-located with *MobiCom 2023*