

Di Duan

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Research Interests: Mobile Computing | Human-Computer Interaction | Wearable Sensing | Deep Learning
Special Focus: System-enabled Novel Applications for Tracking, Reconstruction, Interaction, and Healthcare

Positions

The Chinese University of Hong Kong (CUHK) Aug. 2024 – Present
Postdoctoral Fellow (Full-Time → Honorary) in Information Engineering *Hong Kong*
Advisor: [Prof. Guoliang Xing](#).

Centre for Perceptual and Interactive Intelligence (CPII) Nov. 2024 – Present
Postdoctoral Fellow *Hong Kong*
Mentor: [Prof. Guoliang Xing](#).

Education

City University of Hong Kong (CityU) Aug. 2020 – Jul. 2024
Ph.D. in Computer Science *Hong Kong*
Supervised by [Dr. Weitao Xu](#), co-supervised by [Prof. Xiaohua Jia](#). I also work closely with [Dr. Tianxing Li](#) at MSU.

Hong Kong University of Science and Technology (HKUST) Aug. 2018 – Nov. 2019
M.Sc. in Electronic Engineering *Hong Kong*

Harbin Engineering University (HEU) Aug. 2014 – Aug. 2018
B.Eng. in Optoelectronic Information Science and Engineering *Harbin, Heilongjiang, China*

Selected Awards

🏆 Honorable Mention Award *MobileHCI'24, 2024*
🏆 Mark Weiser Best Paper Award *PerCom'23, 2023*
🏆 Best Demo Runner-up Award *SenSys'24, 2024*
🌟 Elsevier Monetary Award *Elsevier, 2023*
🌟 Studentship *CityU, 2020*

Publications

[SenSys'25] **Argus: Multi-View Egocentric Human Mesh Reconstruction Based on Stripped-Down Wearable mmWave Add-on**
Di Duan*, Shengzhe Lyu*, Mu Yuan, Hongfei Xue, Tianxing Li, Weitao Xu, Kaishun Wu, Guoliang Xing 2025

[MobiSys'24] **F²Key: Dynamically Converting Your Face into a Private Key Based on COTS Headphones for Reliable Voice Interaction**
Di Duan, Zehua Sun, Tao Ni, Shuaicheng Li, Xiaohua Jia, Weitao Xu, Tianxing Li 2024

[IMWUT/UbiComp'24] **EarSE: Bringing Robust Speech Enhancement to COTS Headphones**
Di Duan, Yongliang Chen, Weitao Xu, Tianxing Li 2024

[PerCom'23] **EMGSense: A Low-Effort Self-Supervised Domain Adaptation Framework for EMG Sensing**
Di Duan, Huanqi Yang, Guohao Lan, Tianxing Li, Xiaohua Jia, Weitao Xu 🏆 Best Paper Award (1/159), 2023

[MobileHCI'24] **Medusa3D: The Watchful Eye Freezing Illegitimate Users in Virtual Reality Interactions**
Aochen Jiao*, Di Duan* (*co-first authors), Weitao Xu 🏆 Honorable Mention Award (3/141), 2024

[INFOCOM'25] iRadar: Synthesizing Millimeter-Waves from Wearable Inertial Inputs for Human Gesture Sensing

Huanqi Yang, Mingda Han, Xinyue Li, **Di Duan**, Tianxing Li, Weitao Xu

2025

[MobiCom'24] RF-Egg: An RF Solution for Fine-Grained Multi-Target and Multi-Task Egg Incubation Sensing

Zehua Sun, Tao Ni, Yongliang Chen, **Di Duan**, Kai Liu, Weitao Xu

2024

[TMC] Scenario-Adaptive Key Establishment Scheme for LoRa-enabled IoV Communications

Huanqi Yang, **Di Duan**, Hongbo Liu, Chengwen Luo, Yuezhong Wu, Wei Li, Albert Y. Zomaya, Linqi Song, Weitao Xu

2024

[TOSN] mmSign: mmWave-based Few-Shot Online Handwritten Signature Verification

Mingda Han, Huanqi Yang, Tao Ni, **Di Duan**, Mengzhe Ruan, Yongliang Chen, Jia Zhang, Weitao Xu

2023

[CSCAIoTSys] EarDA: Towards Accurate and Data-Efficient Earable Activity Sensing

Shengzhe Lyu, Yongliang Chen, **Di Duan**, Renqi Jia, Weitao Xu

2024

[SenSys'24 Demo] Myotrainer: Muscle-Aware Motion Analysis and Feedback System for In-Home Resistance Training

Yuting He, Xinyan Wang, Mu Yuan, **Di Duan**, Doris S. F. Yu, Guoliang Xing, Hongkai Chen

 **Best Demo Runner-up Award, 2024**

Professional Services

Organizing Committee:

2024: Publicity Chair of BodySys Workshop (MobiSys)

Technical Program Committee:

2024: ICPADS, CHCHI (Chinese CHI)

Artifact Evaluation Committee:

2024: MobiSys

Conference Review:

2025: MobiCom, CHI, UbiComp

2024: IPSN, IOTDI, ICDCS, DCOSS-IoT, SenSys

2023: IPSN

Journal Review:

2025: IMWUT, TOSN (IEEE Trans), HEALTH (ACM Trans)

2024: TMC (IEEE Trans), HEALTH (ACM Trans), Ad Hoc Networks

Reference

Guoliang Xing (Postdoc Advisor)

ACM Fellow, IEEE Fellow, HKIE Fellow

Professor

The Chinese University of Hong Kong

Email: glxing@ie.cuhk.edu.hk

Xiaohua Jia (Ph.D. Co-advisor)

IEEE Fellow, ACM Distinguished Member

Chair Professor, Former Head of Department of Computer Science

City University of Hong Kong

Email: csjia@cityu.edu.hk

Weitao Xu (Ph.D. Advisor)

IEEE Senior Member

Assistant Professor

City University of Hong Kong

Email: weitaoxu@cityu.edu.hk

Tianxing Li (Close Collaborator)

Assistant Professor

Michigan State University

Email: litianx2@msu.edu