

# Di Duan

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**Research Interests:** Wearable Sensing | Wireless Sensing | Hardware-Software Co-Design System | Healthcare+AI  
Mobile Sensing × Human-Computer Interaction

**Special Focus:** Pioneering Sensing Technologies | Affordable, Secure, and User-friendly Applications | Health

👁 **Research Vision:** Advancing the next generation of human-machine-environment interaction through ubiquitous mobile systems—making it more accessible, affordable, and reliable.

## Positions

**The Chinese University of Hong Kong (CUHK)**

Postdoctoral Fellow (Full-Time) in the Department of Information Engineering

Advisor: [Prof. Guoliang Xing](#).

Aug. 2024 – Present

Hong Kong

**Centre for Perceptual and Interactive Intelligence (CPII)**

Postdoctoral Fellow

Mentor: [Prof. Guoliang Xing](#).

Nov. 2024 – Apr. 2025

Hong Kong

## Education

**City University of Hong Kong (CityU)**

Ph.D. in Computer Science

Supervised by [Prof. Weitao Xu](#), co-supervised by [Prof. Xiaohua Jia](#). I also work closely with [Prof. Tianxing Li](#) at MSU.

Aug. 2020 – Jul. 2024

Hong Kong

**Hong Kong University of Science and Technology (HKUST)**

M.Sc. in Electronic Engineering

Aug. 2018 – Nov. 2019

Hong Kong

**Harbin Engineering University (HEU)**

B.Eng. in Optoelectronic Information Science and Engineering

Aug. 2014 – Aug. 2018

Harbin, Heilongjiang, China

## Selected Awards

🏆 ACM SIGBED China Doctoral Dissertation Award (3 awardees nationwide)

ACM China, 2025

🌟 Outstanding Research Thesis Award 2024

CityU, 2025

🏆 Best Paper Honorable Mention Award

ACM SenSys'25, 2025

🏆 Honorable Mention Award

ACM MobileHCI'24, 2024

🏆 Mark Weiser Best Paper Award

IEEE PerCom'23, 2023

🏆 Best Demo Runner-up Award

ACM SenSys'24, 2024

🌟 Elsevier Monetary Award

Elsevier, 2023

🌟 Studentship

CityU, 2020

## Publications

[UIST'25] PricoEye: The Eye of Primary Colors for Fast and Convenient 3D Reconstruction of Fine-grained Palmprint on Smartphones

Di Duan\*, Kaicheng Xiao\*, Lixing He, Wei Gao, Guoliang Xing

2025

[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

🏆 Best Paper Honorable Mention Award (5/235), 2025

[MobiSys'24] F<sup>2</sup>Key: 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

[IMWUT/UbiComp'24] EarSE: Bringing Robust Speech Enhancement to COTS Headphones Di Duan, Yongliang Chen, Weitao Xu, Tianxing Li	2024
	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	2024
	🏆 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	2024
	🏆 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
	2025
[TMC] Mitigating Tail Latency for On-Device Inference with Load-Balanced Heterogeneous Models Mu Yuan, Lan Zhang, Di Duan, Liekang Zeng, Miao-Hui Song, Zichong Li, Guoliang Xing, Xiang-Yang Li	2025
	2025
[SIGCOMM'25] SCX: Stateless KV-Cache Encoding for Cloud-Scale Confidential Transformer Serving Mu Yuan, Lan Zhang, Liekang Zeng, Siyang Jiang, Bufang Yang, Di Duan, Guoliang Xing	2025
	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
	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
	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
	2023
[CSCAIoTSys] EarDA: Towards Accurate and Data-Efficient Earable Activity Sensing Shengzhe Lyu, Yongliang Chen, Di Duan, Renqi Jia, Weitao Xu	2024
	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	2024
	🏆 Best Demo Runner-up Award, 2024

## Professional Services

Organizing Committee: 2024:	Publicity Chair of BodySys Workshop (MobiSys)
Technical Program Committee: 2025: 2024:	ICPADS, SenSys (Demo)
	ICPADS, CHCHI (Chinese CHI)
Artifact Evaluation Committee: 2025: 2024:	MobiCom
	MobiSys
Conference Review: 2025: 2024: 2023:	MobiCom, CHI, UbiComp, SIGCOMM
	IPSN, IOTDI, ICDCS, DCOSS-IoT, SenSys
	IPSN
Journal Review: 2025: 2024:	IMWUT, TMC (IEEE Trans), HEALTH (ACM Trans), TIOT (ACM Trans)
	TMC (IEEE Trans), HEALTH (ACM Trans), Ad Hoc Networks

## Reference

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**Guoliang Xing** (Postdoc Advisor)

**Professor**

Email: glxing@ie.cuhk.edu.hk

ACM Fellow, IEEE Fellow, HKIE Fellow

*The Chinese University of Hong Kong*

**Xiaohua Jia** (Ph.D. Advisor)

**Chair Professor, Former Head of Department of Computer Science**

Email: csjia@cityu.edu.hk

IEEE Fellow, ACM Distinguished Member

*City University of Hong Kong*

**Weitao Xu** (Ph.D. Advisor)

**Associate Professor**

Email: weitaoxu@cityu.edu.hk

IEEE Senior Member

*City University of Hong Kong*

**Tianxing Li** (Close Collaborator)

**Assistant Professor**

Email: litianx2@msu.edu

*Michigan State University*