

Di Duan

[✉ duandiacademic@gmail.com](mailto:duandiacademic@gmail.com) | [🌐 Personal Homepage](#) | [🔍 Google Scholar](#) | [🌐 LinkedIn](#)

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 Honors and 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

Latest publication list is available at [Google Scholar](#) and my [Homepage](#).

* indicates co-primary authors, _____ indicates students under my supervision.

[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] 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

[SenSys'26] (Just Accepted) COACH: Adaptive Robust Human-Robot Collaboration for Efficient Smart Manufacturing

Hui Wang, Liekang Zeng, Zhiwen Yu, Yao Zhang, Di Duan, Mu Yuan, Bin Guo, Guoliang Xing 2026

[RTSS'25] (Just Accepted) Grape: Efficient Spatiotemporal Prediction Services with Stale Sensing Streams

Liekang Zeng, Yunchao Liu, Shengyuan Ye, Mu Yuan, Di Duan, Xu Chen, Guoliang Xing 2025

[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

[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

[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

[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

Mentoring Experience

Aochen Jiao CityU CS Research Assistant, now Incoming Ph.D. Student at The University of Sydney
2023–2024 Research Output: a MobileHCI'24 paper (with Honorable Mention Award)

Teaching Experience

IERG6200 Advanced Topics in Computer Networks (CUHK), Course Administrator
2025 R1 - Curated a dynamic list of cutting-edge research papers for the advanced topics in computer networks; mentored students through presentations with targeted feedback; evaluated course projects and final exams
IERG6200 Advanced Topics in Computer Networks (CUHK), Course Administrator

| | |
|--|--|
| <i>2024 R1</i> | - Curated a dynamic list of cutting-edge research papers for the advanced topics in computer networks; mentored students through presentations with targeted feedback; evaluated course projects and final exams |
| CS1302 <i>2023/24 Sem. B</i> | Introduction to Computer Programming (CityU), Teaching Assistant - Held office hours; graded and wrote solutions for assignments and exams |
| CS1302 <i>2023/24 Sem. A</i> | Introduction to Computer Programming (CityU), Tutor - Held office hours; taught lab tutorials; graded course projects and exams |
| CS1302 <i>2022/23 Sem. A&B</i> | Introduction to Computer Programming (CityU), Teaching Assistant - Held office hours; graded and wrote solutions for assignments and exams |
| CS1302 <i>2021/22 Sem. B</i> | Introduction to Computer Programming (CityU), Tutor - Held office hours; taught lab tutorials; graded course projects and exams |
| CS1302 <i>2021/22 Sem. A</i> | Introduction to Computer Programming (CityU), Teaching Assistant - Held office hours; graded and wrote solutions for assignments and exams |
| CS1302 <i>2020/21 Sem. A&B</i> | Introduction to Computer Programming (CityU), Teaching Assistant - Held office hours; graded and wrote solutions for assignments and exams |

Professional Services

Organizing Committee:

2024: Publicity Chair of BodySys Workshop (MobiSys)

Technical Program Committee:

2026: MobiSys
2025: ICPADS, SenSys (Demo)
2024: ICPADS, CHCHI (Chinese CHI)

Artifact Evaluation Committee:

2025: MobiCom
2024: MobiSys

Conference Review:

2026: MobiSys
2025: MobiCom, CHI, UbiComp, SIGCOMM, ICPADS
2024: IPSN, IOTDI, ICDCS, ICPADS, DCOSS-IoT, SenSys
2023: IPSN

Journal Review:

2025: IMWUT, TMC (IEEE Trans), HEALTH (ACM Trans), TIOT (ACM Trans)
2024: TMC (IEEE Trans), HEALTH (ACM Trans), Ad Hoc Networks

Reference

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