

Di Duan

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Research Interests: Mobile Computing | Human-Computer Interaction | Deep Learning | Wearable Computing

Education

City University of Hong Kong (CityU) Ph.D. (expected) in Computer Science Supervised by Dr. Weitao Xu, co-supervised by Prof. Xiaohua Jia. I also work closely with Dr. Tianxing Li at MSU.	Aug. 2020 – Aug. 2024 (expected) Hong Kong SAR, China
Hong Kong University of Science and Technology (HKUST) M.Sc. in Electronic Engineering	Aug. 2018 – Nov. 2019 Hong Kong SAR, China
Harbin Engineering University (HEU) B.Eng. in Optoelectronic Information Science and Engineering	Aug. 2014 – Aug. 2018 Harbin, Heilongjiang, China

Publications

[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 (conditional acceptance) 16.3%, 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), 16.9%, 2023	
[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	
[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	

Current Research

Reflexive Saccade-Based User Authentication in VR (under review in MobileHCI'24) New user authentication approach based on reflexive saccade enables reliable interaction. • This research was completed by a student under my supervision (as co-first author).	Aug. 2023 - Present Gaze, HCI, VR
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Awards

Elsevier Monetary Award	Elsevier, 2023
Mark Weiser Best Paper Award	PerCom'23, 2023
Postgraduate Studentship	CityU, 2020

Skills

Languages:	Python, Matlab, Java
Technologies:	Signal Processing (audio, EMG, IMU, gaze, mmWave), Deep Learning, Transfer Learning
Platform & Framework:	Pytorch, Tensorflow, Arduino, Android
Tools:	LaTeX, Draw.io, Powerpoint

Services

Conference Review:	
2024:	IPSN, IOTDI, ICDCS, DCOSS-IoT
2023:	IPSN
Journal Review:	
2024:	Ad Hoc Networks

Professional Experience

Bright Dream Robotics Co., Ltd. (Country Garden Group)

Oct. 2019 - Jul. 2020

Deep Learning Algorithm Engineer

Foshan, Guangdong, China

- Vision-empowered tower crane safety system.
- Elevator overload detection in building site scenarios.

Unity Drive co., Ltd.

Apr. 2019 - Sep. 2019

Research Intern

Shenzhen, Guangdong, China

- Autonomous vehicle vision algorithm development.