Luca Jiang-Tao Yu

CONTACT INFORMATION

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EDUCATION

Ph.D. in Computer Science Sept '23 - Present
Dept. of Computer Science
The University of Hong Kong, Hong Kong
Advisor: Prof. Chenshu Wu

B.Eng. in Information Engineering Sept '19 - Jul '23
School of Info. & Comm. Engineering
Beijing University of Posts and Telecommunications, China
GPA: 3.88/4, Rank: 2/203

RESEARCH INTERESTS

During the PhD journey, the focus is on **signal-informed sensing and learning**. This means incorporating the intrinsic properties of physical signals when building deep learning solutions for sensing tasks. In the VLM-era of deep learning, data, operator design, and cross-modality transfer are central; however, directly migrating practices from image, speech, and text to wireless or wearable data often degrades performance and explainability due to temporal dynamics, complex-valued representations, and partially understood sensing artifacts. Based on this, my work emphasizes mmWave radar, acoustic sensing, and human-computer interaction.

EXPERIENCE

Research Assistant Nov '21 - Sept '23
MARS Lab, Advisor: Prof. Hang Zhao
IIIS, Tsinghua University (Beijing) & Shanghai Qi Zhi Institute (Shanghai)

- Research on wireless perception, multi-modality/sensor machine learning.
- Developed an acoustic sensing system via mmWave radar to eavesdrop.

Research Intern Jun '20 - Sept '21
Intelligent Comm. Software & Multimedia Key Lab, Advisor: Prof. Anfu Zhou
School of Computer Science, BUPT (Beijing)

- Research on mmWave radar tracking & sensing.
- Developed a plan of double-hand tracking clustering via mmWave radar.

PUBLICATIONS

- **Luca Jiang-Tao Yu**, Chenshu Wu. RF-LEGO: Modularized Signal Processing-Deep Learning Co-Design for RF Sensing via Deep Unrolling. *Mobicom 2026*.
- Weiying Hou, **Luca Jiang-Tao Yu**, Chenshu Wu. Take Me Home, Wi-Fi Drone: A Drone-based Wi-Fi System for Wilderness Search and Rescue. *Mobicom 2026*.
- Running Zhao, **Luca Jiang-Tao Yu**, Tingle Li, Zhihan Jiang, Chenwei Zhang, Chenshu Wu, Hang Zhao, Edith C.H. Ngai. SPACE: Speaker Adaptation for Acoustic Eavesdropping using mmWave Radar. IEEE Transactions on Mobile Computing.
- **Luca Jiang-Tao Yu***, Running Zhao*, Sijie Ji, Edith C.H. Nagi, Chenshu Wu. USpeech: Ultrasound-Enhanced Speech with Minimal Human Effort via Cross-Modal Synthesis. *Ubicomp/ISWC 2025*.

- **Luca Jiang-Tao Yu**, Chenshu Wu. NeuroDet: Unfolding Target Detection with State Space Mode. Pre-print.
- Running Zhao*, **Luca Jiang-Tao Yu***, Hang Zhao, Edith C.H. Ngai. Radio2Text: Streaming Speech Recognition using mmWave Radio Signals. *Ubicomp/ISWC 2023*.
- Running Zhao, **Luca Jiang-Tao Yu**, Tingle Li, Edith C.H. Ngai, Hang Zhao. Radio2Speech: High Quality Speech Recovery from Radio Frequency Signals. *Interspeech 2022*.

HONORS & SCHOLARSHIP

- IEEE 2025 Signal Processing Society Scholarship (Renewal)
- IEEE 2024 Signal Processing Society Scholarship
- HKU Student Postgraduate Scholarship
- National Scholarship (Rank: 7/902, 0.7%)
- China Mobile Outstanding Student Scholarship (Rank: 2/192, 1%)
- 1^{st} prize in National Math Competition for College Students (Engineering)

ACADEMIC SERVICE / Teaching

- Reviewer: MobiSys '23, ATC '23, OSDI '23, Ubicomp '24 Nov, Ubicomp '25 Feb, Ubicomp '25 May, TIOT, JSAS, CHI '26;
- PC Member: ICPADS '24, ICPADS '25;
- TA: COMP1117 (Computer Programming, '23 Fall), COMP7310 (Artificial Intelligence of Things, '25 Spring), COMP3230 (Principles of Operating Systems, '25 Fall)

SKILLS

C/C++, Python, Website, MATLAB, Pytorch, DSP, Arduino, ESP-IDF, Polysomnography (PSG), Android Development