

Lilin Xu

Master Student, College of Control Science and Engineering, Zhejiang University
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RESEARCH INTERESTS

I am broadly interested in **mobile sensing and AIoT** (AI + IoT), with a primary focus on related fields of developing artificial intelligence sensing systems for practical applications, including human activity recognition, authentication, etc.

EDUCATION

Zhejiang University

M.Sc. in Control Science and Engineering; **GPA: 3.91/4.00**

Advisor: Prof. Shibo He & Prof. Chaojie Gu

Group of Networked Sensing and Control (NesC), College of Control Science and Engineering

Hangzhou, China
Sept. 2021 – Mar. 2024 (Expected)

Zhejiang University

B.Sc. in Automation; **GPA: 3.95/4.00, Rank: 5/120**

College of Control Science and Engineering

Hangzhou, China
Sept. 2017 – Jun. 2021

VISITING EXPERIENCE

Nanyang Technological University

Visiting Research Student

Advisor: Prof. Rui Tan

NTU IoT Research Group, School of Computer Science and Engineering

Singapore
Apr. 2023 – Present

RESEARCH EXPERIENCE & PUBLICATIONS

MESEN: Exploit Multimodal Data to Design Unimodal Human Activity Recognition with Few Labels

Conditionally Accepted, SenSys'23 (Acceptance ratio: 34/179=19.0%)

Lilin Xu, Chaojie Gu, Rui Tan, Shibo He, Jiming Chen

- Proposed to fully utilize increasingly available unlabeled multimodal to enhance the performance of unimodal HAR with limited labeled data
- Designed a universal framework, MESEN, to exploit the inherent relationships between unlabeled multimodal data to guide effective unimodal feature extraction
- Evaluated MESEN's performance on eight public datasets, and demonstrated MESEN's effectiveness in achieving significant enhancement for unimodal HAR across different modalities

Latency-aware Neural Architecture Performance Predictor with Query-to-Tier Technique

Accepted, IEEE Transactions on Circuits and Systems for Video Technology

Bicheng Guo, Lilin Xu* (*technically equal contribution), Tao Chen, Peng Ye, Shibo He, Haoyu Liu, Jiming Chen*

- Proposed NARQ2T to match architectures to various quality tiers and guide the sampling in the search phase, through which the rank of each architecture can be obtained from a global perspective
- Designed an end-to-end technique that enables automatic tier embedding learning, which reduces training cost

GesturePrint: Enabling User Identification for mmWave-based Gesture Recognition Systems

Under review

Lilin Xu, Keyi Wang, Chaojie Gu, Shibo He, Jiming Chen

- Proposed GesturePrint which first achieves person-independent gesture recognition and gesture-based user identification using a commodity mmWave radar sensor
- Designed a novel architecture GesNet featuring a multilevel feature fusion module for recognition and identification
- Evaluated GesturePrint's performance on our self-collected dataset and other three public gesture recognition datasets and demonstrated that GesturePrint outperforms existing state-of-the-art gesture recognition approaches; GesturePrint achieved an accuracy of over 97% under different settings on all the four datasets

SELECTED AWARDS

Zhejiang University Award of Honor for Graduate

AI Studio 2022 CVPR Track2: Performance Estimation Track, Top 10 Award (8/190)

College Academic Excellence First-prize Scholarship

Zhejiang University Second-prize Scholarship

Zhejiang University First-prize Scholarship

Zhejiang University Outstanding Student Honor

2022 & 2023

2022

2022

2018 & 2020

2019

2019

SKILLS

Programming: Python, MATLAB

TOEFL: 101