Lilin Xu

Master Student, College of Control Science and Engineering, Zhejiang University
+86 153 5615 9565 | @ lilinxu@zju.edu.cn | Homepage

I am a master student at Group of Networked Sensing and Control (NesC), Zhejiang University, advised by Prof. Chaojie Gu and Prof. Shibo He. I currently also work as a visiting student with Prof. Rui Tan, Nangyang Technological University. 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 — Hangzhou, China
M.Sc. in Control Science and Engineering; **GPA: 3.91/4.0** — Sept. 2021 – Mar. 2024 (Expected)
Advisor: Prof. Chaojie Gu & Prof. Shibo He
Group of Networked Sensing and Control (NesC), College of Control Science and Engineering

Zhejiang University — Hangzhou, China
B.Sc. in Automation; **GPA: 3.95/4.0**, **Rank: 5/120** — Sept. 2017 – Jun. 2021
College of Control Science and Engineering

Visiting Experience

Nanyang Technological University — Singapore
Visiting Research Student — Apr. 2023 – Present
Advisor: Prof. Rui Tan
NTU IoT Research Group, School of Computer Science and Engineering

Research Experience & Publications

MESEN: Exploit Multimodal Data to Design Unimodal Human Activity Recognition with Few Labels
Accepted, SenSys'23 (Acceptance ratio: 34/179=19%)
***Lilin Xu**, Chaojie Gu, Rui Tan, Shibo He, Jiming Chen*

- Proposed to utilize the increasing availability of multimodal data to enhance unimodal HAR, given the widespread applicability of unimodal HAR in real-world scenarios
- Designed a multimodal-empowered unimodal sensing framework, MESEN, to exploit the correlations within unlabeled multimodal data for effective unimodal feature extraction
- Evaluated MESEN on eight public multimodal datasets, demonstrating the effectiveness of MESEN in achieving significant enhancement for unimodal HAR by exploiting unlabeled multimodal data

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
- Obtained the rank of each architecture 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
Ongoing
***Lilin Xu**, Keyi Wang, Chaojie Gu, Shibo He, Jiming Chen*

- Proposed GesturePrint, a framework first achieves person-independent gesture recognition and gesture-based user identification using a commodity mmWave radar sensor
- Designed a novel architecture GesIDNet featuring a multilevel feature fusion module for recognition and identification
- Evaluated GesturePrint on our self-collected dataset and three public gesture recognition datasets, demonstrating the effectiveness of GesturePrint in both gesture recognition and user identification under different application scenarios

Selected Awards

Zhejiang University Award of Honor for Graduate — 2022 & 2023
AI Studio 2022 CVPR Track2: Performance Estimation Track, Top 10 Award (8/190) — 2022
College Academic Excellence First-prize Scholarship — 2022
Zhejiang University Second-prize Scholarship — 2018 & 2020
Zhejiang University First-prize Scholarship — 2019
Zhejiang University Outstanding Student Honor — 2019

Skills

Programming: Python, MATLAB
TOEFL: 101