Kaiyi Guo

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Mywebset

Research Interests

My research interests focus on **human-computer interaction**, **smart health**, **wireless sensing**, and **applied machine learning**. By exploring diverse sensing modalities, hardware form, and innovative machine learning methods, I aspire to transform complex interactive techniques, once restricted to laboratory settings, into simpler, more universally applicable solutions in real-world scenarios.

Education

Shanghai Jiao Tong University *Sept 2023 – Mar 2026 (Expected)*
MS in Computer Science

- GPA: 3.5/4.0
- *Advisor:* Prof. Dong Wang and Prof. Qian Zhang

Zhengzhou University *Sept 2019 – Jun 2023*
BS in Computer Science

- GPA: 3.85/4.0 (rank: 1/58)
- **Coursework:** Computer Architecture, Computer Network, Operate System

Publications

C4. **Kaiyi Guo***, Tianyu Wu*, Yang Gao, Qian Zhang, Dong Wang, **EchoTouch: Low-power Face-touching Behavior Recognition Using Active Acoustic Sensing on Glasses**, Submit to ACM Interact. Mob. Wearable Ubiquitous Technol (IMWUT)/Ubicomp'25 (Major Revision).

J1. **Kaiyi Guo**, Qian Zhang, Dong Wang, **EchoExpress: Facial Expression Recognition in the Wild via Acoustic Sensing on Smart Glasses**, Submit to IEEE Transactions on Mobile Computing (Minor Revision).

C3. **Kaiyi Guo**, Qian Zhang, Dong Wang, **EchoBreath: Continuous Respiratory Behavior Recognition in the Wild via Acoustic Sensing on Smart Glasses**, In (to appear) Proceedings of the 2025 CHI Conference on Human Factors in Computing Systems (CHI'25, **Honorable Mention**).

C2. Qian Zhang, **Kaiyi Guo**, Yifei yang, Dong Wang, **WearSE: Enabling Streaming Speech Enhancement on Eyewear Using Acoustic Sensing**, In Proc. ACM Interact. Mob. Wearable Ubiquitous Technol (IMWUT)/Ubicomp'25.

C1. Qian Zhang, Yubin Lan, **Kaiyi Guo**, Dong Wang, **Lipwatch: Enabling Silent Speech Recognition on Smartwatches using Acoustic Sensing**, In Proc. ACM Interact. Mob. Wearable Ubiquitous Technol (IMWUT)/Ubicomp'24.

* Equal Contribution

Awards

CHI 2025 Honorable Mention
ACM SIGCHI

Outstanding Graduate of Henan Province (2023)
Henan Province

National Scholarship (2022)
Zhengzhou University

Triple-A Outstanding Student of Henan Province (2022)
Henan Province

Service

External Reviewer *2025 – present*

UbiComp'25

Projects

Acoustic Sensing Based Sleep Monitoring System *Lab Project*

- Develop a smart speaker system that emits ultrasound waves and analyzes the received echo profiles to obtain critical sleep health indicators, such as sleep stages and sleep apnea. Design and implement a cloud-based Python backend for data processing and storage, and create a user-friendly web interface for visualizing sleep stages, apnea events, and personalized sleep insights.
- Tools Used: C++, Python

Teaching Experience

SE3303 Data Mining and Big Data Analytics *Spring'25*

Teaching Assistant at Shanghai Jiao Tong University, Instructor: Prof. Dong Wang and Prof. Qian Zhang

EI8702 Internet of Things (IoT) Technology *Fall'24*

Teaching Assistant at Shanghai Jiao Tong University, Instructor: Prof. Dong Wang and Prof. Qian Zhang

SE3303 Data Mining and Big Data Analytics *Spring'24*

Teaching Assistant at Shanghai Jiao Tong University, Instructor: Prof. Dong Wang and Prof. Qian Zhang

Skills

Languages: C++, C, Python, Java

Technologies: Tensorflow, Pytorch