XIANGYU YIN

PHD CANDIDATE

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RESEARCH INTERESTS

Mobile Sensing, Smart Health, AI in Healthcare, Internet of Things, Robotics.

EXPERIENCE

2019 - Present

Graduate Student Researcher / Research Assistant
Intelligent System Lab, Dept. of Electrical & Computer Engineering
University of Pittsburgh, Pittsburgh, PA

- Developed smartphone-based acoustic sensing systems to measure human airway calibers and utilize machine learning tools for pulmonary disease (asthma, COPD, etc.) evaluation. This is a collaboration with pulmonologists at UPMC Children's Hospital of Pittsburgh.
- Developed AI applications to enhance prosthesis alignment for individuals with disabilities. Utilized computer vision to analyze patients' gait with new prostheses, providing guidance to patients and healthcare providers for improved alignment and mobility.

2020 - 2022

Teaching Assistant
Department of Electrical and Computer Engineering
University of Pittsburgh, Pittsburgh, PA

- ECE 1150 – Computer Networks (Fall 2020 - Spring 2021)
- ECE 1175 – Embedded System Design (Fall 2021 - Spring 2022)

2018 - 2019

Research Assistant
Department of Automation
University of Science and Technology of China (USTC), Hefei, China

- Developed hardware-in-the-loop (HIL) simulation tools for testing UAV flight control system.

EDUCATION

April 2025 (Anticipated)

Ph.D. in Electrical and Computer Engineering
University of Pittsburgh, Pittsburgh, PA
Advisor: Prof. Wei Gao

June 2019

B.Eng. in Automation
University of Science and Technology of China (USTC), Hefei, China
Enrolled in the *Talent Program in Information Science and Technology*
Graduated from the *School of the Gifted Young*

PUBLICATIONS

1. **[MobiCom'24]** Kai Huang, Xiangyu Yin, Tao Gu, and Wei Gao. 2024 (In press). Perceptual-Centric Image Super-Resolution using Heterogeneous Processors on Mobile Devices. (Acceptance Rate: 19.1%)
2. **[MobiSys'23]** Xiangyu Yin, Kai Huang, Erick Forno, Wei Chen, Heng Huang, and Wei Gao. 2023. PTEase: Objective Airway Examination for Pulmonary Telemedicine using Commodity Smartphones. In Proceedings of the 21st Annual International Conference on Mobile Systems, Applications and Services (MobiSys '23). Association for Computing Machinery, New York, NY, USA, 110–123. https://doi.org/10.1145/3581791.3596854 (Acceptance Rate: 20.7%)
3. **[CML-IOT'22/SenSys'22]** Xiangyu Yin, Kai Huang, Erick Forno, Wei Chen, Heng Huang, and Wei Gao. 2023. Out-Clinic Pulmonary Disease Evaluation via Acoustic Sensing and Multi-Task Learning on Commodity Smartphones. In Proceedings of the 20th ACM Conference on Embedded Networked Sensor Systems (SenSys '22). Association for Computing Machinery, New York, NY, USA, 1182–1188. https://doi.org/10.1145/3560905.3568437 (**Best Paper Award**)

PROFESSIONAL ACTIVITIES

Presentations:

- "Perceptual-Centric Image Super-Resolution using Heterogeneous Processors on Mobile Devices", The 30th Annual International Conference on Mobile Computing and Networking (MobiCom'24), Washington, D.C., November 2024
- "Smartphone-Based Acoustic Waveform Airway and Respiratory Examination", ATS 2023 International Conference, Washington, D.C., May 2023 (Poster)
- "Out-Clinic Pulmonary Disease Evaluation via Acoustic Sensing and Multi-Task Learning on Commodity Smartphones", The Fourth Workshop on Continual and Multimodal Learning for Internet of Things (CML-IOT'22), Co-Located with SenSys 2022, Boston, MA, November 2022
- "Acoustic Waveform Respiratory Evaluation (AWARE)", i4Kids Symposium, UPMC Children's Hospital of Pittsburgh, Pittsburgh, PA, June 2022
- "Neural Network Memoization for Scalable Edge Inference", Elijah Meeting, Dept. of Computer Science, Carnegie Mellon University, Pittsburgh, PA, March 2022

Conference Reviewer:

- 2023 IEEE/ACM international conference on Connected Health: Applications, Systems and Engineering Technologies (CHASE'23)
- 2023 IEEE International Conference on Communications (ICC'23) E-health Track
- 2023 IEEE International Conference on Computer Communications (INFOCOM'23)
- The 19th IEEE International Conference on Mobile Ad-Hoc and Smart Systems (MASS'22)

SKILLS & ABILITIES

Programming Skills: MATLAB, C/C++, Python, Java, JavaScript, HTML, SQL, LaTeX

Software & Tools: MATLAB, PyTorch, Keil, Autodesk Fusion 360, UltiMaker Cura

Hardware Platforms: Android, STM32, Raspberry Pi, Nvidia Jetson

HONORS & AWARDS

November 2024	**Student Travel Grant** ACM MobiCom'24
November 2022	**Best Paper Award** ACM CML-IOT'22
December 2017	**Bronze Prize of Scholarship for Outstanding Students in USTC** University of Science and Technology of China (USTC)
August 2017	**National Second Prize / Provincial First Prize** National Undergraduate Electronic Design Contest
December 2016	**Seagate Scholarship of USTC** University of Science and Technology of China (USTC)