HAO ZHOU

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RESEARCH OVERVIEW

I am a Ph.D. candidate, working in the areas of **wearable/wireless sensing, and multimodal learning**, and targeting various real-world applications, including **pose estimation**, digital health, and accessibility topics such as sign language recognition.

On top of various modalities (IMU, Vision, Ultra-wideband, Acoustics, etc.), I develop practical systems by designing signal processing and machine learning algorithms.

EDUCATION

The Pennsylvania State University Doctor of Philosophy in Computer Science and Engineering Advisor: Dr. Mahanth Gowda	State College, PA, USA 2021 - May 2025 (Expected)
The University of Mississippi	Oxford, MS, USA
Master of Science in Computer Science	2019 - 2021
Bachelor of Science in Computer Science	2016 - 2019

INDUSTRIAL EXPERIENCE

Microsoft Research Asia, Shanghai, China

- Research intern mentored by Dr. Jie Xiong.
- Ultra-wideband (UWB) Sensing on Consumer-level Devices for respiration, device attitude, etc.
- Intersection of 3D Vision (LiDAR) and Wireless Sensing.

SELECTED PUBLICATIONS

[ACM/IEEE IoTDI 2024] <u>Hao Zhou</u>, Taiting Lu, Kenneth DeHaan, and Mahanth Gowda, "ASLRing: American Sign Language Recognition with Meta-Learning on Wearables".

[ACM MobiCom 2023] <u>Hao Zhou</u>, Taiting Lu, Kristina McKinnie, Joseph Palagano, Kenneth DeHaan, and Mahanth Gowda, "SignQuery: A Natural User Interface and Search Engine for Sign Language with Wearable Sensors".

[ACM/IEEE IoTDI 2023 **Q**] <u>Hao Zhou</u>, Taiting Lu, Yilin Liu, Shijia Zhang, Runze Liu, and Mahanth Gowda, "One Ring to Rule Them All: An Open Source Smartring Platform for Finger Motion Analytics and Healthcare Applications", Best Paper Award for Edge IoT AI.

[ACM Transactions on Internet of Things 2023] Shijia Zhang, Taiting Lu, <u>Hao Zhou</u>, Yilin Liu, Runze Liu, and Mahanth Gowda, "I am an Earphone and I can Hear my Users Face: 3D Facial Reconstruction using Smart Earphones".

[ACM IMWUT/UbiComp 2022] <u>Hao Zhou</u>, Taiting Lu, Yilin Liu, Shijia Zhang, and Mahanth Gowda, "Learning on the Rings: Self-Supervised 3D Finger Motion Tracking using Wearable Sensors".

[NeurIPS 2023 Workshop] Xi Li, Songhe Wang, Chen Wu, <u>Hao Zhou</u>, and Jiaqi Wang, "Backdoor Threats from Compromised Foundation Models to Federated Learning".

May 2023 - Aug 2023