Yiming Zhang

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Education

Zhejiang University (ZJU), China. Sep. 2018 – Mar. 2024

Ph.D. in Biomedical Engineering &Instrumentation Science

South-Central Minzu University, China.

B.E. in Biomedical Engineering, GPA:4.0/4.0, Rank: 1/116 Sep. 2014 – Jun. 2018

Work Experience

The Chinese University of Hong Kong, Hong Kong Jun. 2024 - Dec. 2025

Postdoctoral Research Fellow in Electronic Engineering

Supervisor: Prof. Yuanting Zhang (IEEE Life Fellow) & Prof. Ni Zhao

Algorithm Intern, Hang Zhou, China Oct. 2022 - Feb. 2023

Jialiang Medical Technology Co., Ltd.

EEG Data Analyst Intern, Hang Zhou, China Apr. 2022 - Jul. 2022

Zhijiang Lab, Artificial Intelligence Research Institute

Publications

Research Interests: AI-driven wearable healthcare & health informatics, integrating sensors, hemodynamics, algorithms and clinical validation for non-invasive, real-time physiological signal monitoring and cardiovascular health assessment. Expertise spans large-scale clinical data acquisition, signal analysis, interpretable/personalized AI/ML, edge deployment, and wearable device prototyping. (17 peer-reviewed publications, 7 as first/co-first author)

Selected publications:

1. **Yiming Zhang**, Shirong Qiu et al., Artificial Intelligence-Enhanced Wearable Blood Pressure Monitoring in Resource-Limited Settings: A Co-Design of Sensors, Models, and Deployment, ***Nano-Micro Letters***, 2025. **(Q1 IF=36.3)**
2. **Yiming Zhang**, Congcong Zhou, Yuanting Zhang, Xuesong Ye. Personalized Continuous Blood Pressure Tracking through Single channel PPG in Wearable Scenarios. ***IEEE Journal of Biomedical and Health Informatics***, 2025. **(Q1 Top IF=6.7)**
3. **Yiming Zhang**, Xianglin Ren, Xiao Liang, Xuesong Ye, Congcong Zhou. A Refined Blood Pressure Estimation model based on single channel Photoplethysmography. ***IEEE Journal of Biomedical and Health Informatics***, 2022. **(Q1 Top IF=6.7)**
4. **Yiming Zhang**, Congcong Zhou, Zhongyi Huang, Xuesong Ye. Study of cuffless blood pressure estimation method based on multiple physiological parameters. ***Physiological Measurement***, 2021. **(Q2 IF=2.3)**
5. **Yiming Zhang**, Congcong Zhou, Zhongyi Huang, Xuesong Ye. Development of a Continuous Blood Pressure Monitoring System based on Pulse Transit Time and Hemodynamic Covariates. ***BIODEVICES***, 2020. **(EI)**
6. Ziyi Liu*, **Yiming Zhang***, Congcong Zhou. BiGRU-attention for Continuous blood pressure trends estimation through single channel PPG. ***Computers in Biology and Medicine***, 2023. **(Q1 IF=7, co-first author)**
7. Xianglin Ren*, **Yiming Zhang***, Honglian Yang, Kaitai Li, Xuesong Ye, Congcong Zhou. Core body temperature estimation model with thermal contact resistance compensation. ***Measurement***, 2023. **(Q1 IF=5.2, co-first author)**
8. **Yiming Zhang** et al., Multi-Cohort and Longitudinal Clinical Validation of a 16-Channel Multispectral Smartwatch for Cuffless Blood Pressure Monitoring, ***Nature Communication***, 2025. **(under review)**
9. A non-invasive chest blood pressure detection method based on pulse wave conduction time. **Invention patents**

Professional & Activities

- **Junior Fellow** of ***Hong Kong Institutes of Medical Engineering Limited (KIME)***.

- **Member** of the ***IEEE P1708 Standard for Wearable, Cuffless Blood Pressure Measuring Devices Working Group***.
- **Reviewer** for *IEEE Journal of Biomedical and Health Informatics, Scientific Reports, Computers in Biology and Medicine, Physiological Measurement, Biomedical Signal Processing and Control, Sensors, IEEE Transactions on Consumer Electronics.*
- **Invited Speaker**, *the 22nd IEEE International Workshop on Medical Device and Biosensors (IEEE-MDBS) & The 15th International Symposium on Biomedical and Health Engineering (BHE)* Nov. 2024
- **Invited Talk**, *Zhejiang Sci-Tech University High-Level Talent Forum: Intelligent wearable blood pressure platform*. Nov. 2024
- **Oral Presentation**, the *13th International Joint Conference on Biomedical Engineering Systems and Technologies (BIOSTEC 2020)* Feb. 2021

Project experience

1. Industry-Academic Collaboration Research Project | Project Lead (Sep. 2024 – Sep. 2025)

- Led a cross-functional team of 10+ members to deliver a **large-scale clinical study** using smartwatches with multi-wavelength PPG and single-lead ECG, overseeing end-to-end project execution including planning, resource allocation, field coordination, quality control, and final delivery.
- Designed **clinical trial protocols**, ethical approval documents, and collaboration agreements, successfully collecting high-quality data from **~7,000 participants across 7 hospitals and community health centers**.
- Developed interpretable, lightweight and high-performance AI methods based on large-scale real-world clinical data, enabling accurate **blood pressure monitorin**g and **vascular condition identification**.
- Published 1 top-tier paper; 2 more under preparation.

Project Title: Research on Cuffless Blood Pressure Monitoring Smartwatch Based on Multi-Wavelength PPG and Single-Lead ECG.
Funding: 6.02 million HKD.

2. **National Key R&D Program | Key Researcher (Jul. 2017 – Dec. 2021)**

- Developed interpretable blood pressure and core temperature estimation models based on ECG, PPG and ABP correlations in the human microcirculation.
- Designed adaptive calibration algorithms, achieving significant accuracy gains (SBP +36.6%, DBP +32.3%) for **long-term blood pressure tracking** and 92% screening accuracy for **cardiovascular risks**.
- Created wearable **ring-type** hardware prototypes and optimized AI models on NVIDIA Jetson for edge inference, enabling real-time, low-power monitoring.
- Contributed to **5 SCI papers**, **1 EI paper**, and **3 patents**.

Project Title: Research on Key Technologies for Reliability Testing of Wearable Smart Products.
Funding: 5 million CNY.

Honors

Excellent graduate student	2019-2022
National Scholarship	2017
First Prize (Champion) | The 1st Innovation & Entrepreneurship Competition of Zijingang Science City	*2018*
First prize of National Biomedical Engineering Electronic Innovation Design Contest	Dec. 2016
Third prize of Hubei Province in National College Students Electronic Design Competition	Aug. 2016
Second prize of Hubei Province in "Lanqiao Cup" Software Design Competition	Mar. 2017