YAO GE

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EDUCATION

Doctor of Philosophy *10/2020 - 03/2024*
University of Glasgow
Thesis title: AI enabled RF sensing of Diversified Human-Centric Monitoring

Bachelor of Engineering *09/2016 - 07/2020*
University of Glasgow with Honours of First Class
Major: Electronics and Electrical Engineering

PEER REVIEWED PUBLICATIONS

Journal Paper

- **Ge, Y.***, Zhu, Y.*, et al. *"Implementation of Voxel Selective Ellipse Normalization to Enhance Radar Respiration Estimation in Metallic Chamber."* IEEE Internet of Things Journal (2025). (*Equal Contribution)
- **Ge, Y.**, et al. *"Contactless WiFi Sensing and Monitoring for Future Healthcare-Emerging Trends, Challenges, and Opportunities."* IEEE Reviews in Biomedical Engineering (2022): 171-191. (selected as the feature article in 2023)
- **Ge, Y.**, et al. *"LoGait: LoRa Sensing System of Human Gait Recognition using Dynamic Time Warping."* IEEE Sensors Journal (2023).
- **Ge, Y.**, et al. *"A Large-scale Multimodal Dataset of Human Speech Recognition."*, Scientific Data (2023).
- Zhu, Y.*, **Ge, Y.***, et al. "Camera-Based Bi-Modal PPG-SCG: Sleep Privacy-Protected Contactless Vital Signs Monitoring." IEEE Internet of Things Journal (2024). (*Equal Contribution)
- Li, S., Zhu, S., **Ge Y.**, et al., *"Depth-guided Deep Video In-painting,"* IEEE Transactions on Multimedia (2023).
- Song, Y., Taylor, W., **Ge, Y.**, et al. *"Evaluation of Deep Learning Models in Contactless Human Motion Detection System for Next Generation Healthcare."* Scientific Reports (2022).
- Li, H., Tang, C., Vishwakarma, S., **Ge, Y.**, & Li, W. (2024). *"Speaker Identification Using Ultra-Wideband Measurement of Voice"*. IET Radar, Sonar & Navigation, 18(2), 266-276.

Conference Paper

- **Ge, Y.**, et al. *"WiFi sensing of Human Activity Recognition using Continuous AoA-ToF Maps."* 2023 IEEE Wireless Communications and Networking Conference (WCNC). IEEE, 2023.
- **Ge, Y.**, et al. *"Respiration detection of sedentary person using ubiquitous WiFi signals."* 2022 IEEE International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting (AP-S/URSI). IEEE, 2022.
- **Ge, Y.**, et al. *"A doppler-based human activity recognition system using WiFi signals."* 2021 IEEE Sensors. IEEE, 2021.
- **Ge, Y.**, et al. *"3D-DFD: A Driver Fatigue Detection Scheme Using 3D mmWave Imaging Radar."* 2024 IEEE International Symposium on Antennas and Propagation and INC/USNC-URSI Radio Science Meeting (AP-S/INC-USNC-URSI). IEEE, 2024.
- **Ge, Y.**, et al. *"Real-time human activity recognition system exploiting ubiquitous Wi-Fi signals."* 2021 IEEE International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting (APS/URSI). IEEE, 2021.

- **Ge, Y.**, et al. *"Intelligent instruction-based IoT framework for smart home applications using speech recognition."* 2020 IEEE International Conference on Smart Internet of Things (SmartIoT). IEEE, 2020.
- Farooq, M., **Ge, Y.**, et al. *"Privacy-Preserving Speaker Recognition Using Radars for Context Estimation in Future Multi-Modal Hearing Assistive Technologies."* In 2023 IEEE International Radar Conference (RADAR) (pp. 1-5). IEEE, 2023
- Li, Shibo, **Ge, Y.**, Minjian Shentu, Shuyuan Zhu, Muhammad Imran, Qammer Abbasi, and Jonathan Cooper. *"Human activity recognition based on collaboration of vision and wifi signals."* In 2021 International Conference on UK-China Emerging Technologies (UCET), pp. 204-208. IEEE, 2021.
- Taha, Ahmad, **Ge, Y.**, William Taylor, Ahmed Zoha, Khaled Assaleh, Kamran Arshad, Qammer H. Abbasi, and Muhammad Ali Imran. *"Indoor activity position and direction detection using software defined radios."* In EAI International Conference on Body Area Networks, pp. 15-27. Cham: Springer International Publishing, 2021.
- Farooq, M., Qayyum, A., **Ge, Y.**, et al. "LoRa-based Privacy-Aware and Contactless Surveillance in Next-generation Smart Homes." 2023 IEEE International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting (USNC-URSI). IEEE, 2023.

EXPERIENCE

Postdoctoral Research Assistant, University of Glasgow *05/2024 - Present*
Work on EPSRC-funded Communications Hub for Empowering Distributed clouD computing Applications and Research (CHADDER) project, focusing on LLM enabled future communication scheme exploration.

Research Assistant, University of Glasgow *11/2023 - 04/2024*
Advisor: Prof. Jonathan Cooper
The project targets to explore the availability in driver fatigue detection with multimodal sensors including RF based radar and vision based camera.

Research Assistant, University of Glasgow *10/2022 - 04/2023*
Advisor: Prof. Qammer Abbasi
In the project, a simulated handwashing platform was built with a Texas Instruments millimeter-wave radar sensor AWR1642 and a camera for real-time recognition of WHO-guided handwashing movements of 20 participants. The Jetson Nano platform was used for signal processing and recognition, and several models (CNN, LSTM, GRU) were evaluated. The project is funded by Wallbo project (https://www.linkedin.com/company/wallbo-handwashing-buddy/).

Visiting Student, Southern University of Science and Technology *08/2023 - 10/2023*
Advisor: Dr. Wenjin Wang
During the visit, the work focuses on the comparison of camera based vital detection system by the group of Dr. Wenjin with the radar based system in adult & neonate sensing.

Research Assistant, University of Electronic Science and Technology of China *01/2021 - 01/2022*
Advisor: Prof. Shuyuan Zhu
During the visit, the main exploration was on the principles and recognition models of human perception based on WiFi channel state information. Work was completed on WiFi-based respiration detection, human posture recognition, and activity classification with machine learning and deep learning.

Teaching Assistant, University of Electronic Science and Technology of China *01/2019 - 01/2022*
Participated as a teaching assistant in courses such as Introduction to Programming, Electronic Power Systems, Electronic System Design, Communication Circuit Design, and Team Course Design.

PUBLIC SERVICE

Actively act as reviewer for IEEE Internet of Things Journal, IEEE Sensors Journal, IEEE Journal of Biomedical and Health Informatics, IEEE Transactions on Wireless Communications, Nature Scientific Reports and MDPI Sensors.