Yuanyuan ZHANG

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PROFILE

Final year PhD with joint background in signal processing, control & optimization and deep learning. Ample theoretical knowledge and practical skills in millimeter-wave sensing for wellness monitoring. Looking for a research or engineer position in automotive sector.

EDUCATION

University of Liverpool   **Liverpool, UK**
Ph.D. in Electrical and Electronic Engineering   *Dec. 2021 - Nov. 2025*
Supervisor: Prof. [Rui Yang](#)

- **Thesis:** Robust Contactless Vital Sign Monitoring based on mmWave Radar

- **Research Interests:** Wellness Monitoring, Signal Processing, Multi-task Optimization, Time-series Forecasting, Robust Deep Learning, Transfer Learning, Data Augmentation

Imperial College London   **London, UK**
MSc Control & Optimization in Electrical and Electronic Engineering   *Oct. 2020-Oct. 2021*

- **GPA:** 3.73/4.00

- **Thesis**: Derivative-free Multi-objective Optimization
  Supervisor: Prof. [Eric C. Kerrigan](#)

- **Courses:** Optimization, Control Eng., Multi-variable Control Sys., Predictive Control

University of Liverpool   **Liverpool, UK**
BEng in Electrical and Electronic Engineering Y2 & 3   *Sep. 2018-May 2020*

- **GPA:** 4.00/4.00

- **Thesis:** Detection and Classification of Buried Objects from GPR Image Using CNN

- **Courses:** Digi. & Wireless Comms., RF Eng., Embedded Computer Sys., C/C++, Signal Proc. & Digi. Filter, Digi. Control Sys., Electronic Circ. & Sys., Neural Network

SELECTED PUBLICATIONS

1. **Yuanyuan Zhang**, Rui Yang, Yutao Yue, Eng Gee Lim, "radarODE-MTL: A Multi-Task Learning Framework with Eccentric Gradient Alignment for Robust Radar-Based ECG Reconstruction", *IEEE Transactions on Instrumentation and Measurement (***TIM***)*, [Link] (Under Major Revision) (**SCI Q1**).

2. **Yuanyuan Zhang**, Runwei Guan, Lingxiao Li, Rui Yang, Yutao Yue, Eng Gee Lim, "radarODE: An ODE-Embedded Deep Learning Model for Contactless ECG Reconstruction from Millimeter-Wave Radar", *IEEE Transactions on Mobile Computing (***(TMC)***)*, [Link] (Under Major Revision) (**SCI Q1, CCF A**).

3. **Yuanyuan Zhang**, Sijie Xiong, Rui Yang, Eng Gee Lim, Yutao Yue, "Recover from Horcrux: A Spectrogram Augmentation Method for Cardiac Feature Monitoring from Radar Signal Components", *in 2025 47th Annual International Conference of the IEEE Engineering in Medicine & Biology Society (***EMBC***)*, IEEE, (Submitted in Dec. 2024).

4. **Yuanyuan Zhang**, Rui Yang, Yutao Yue, Eng Gee Lim, Zidong Wang, "An Overview of Algorithms for Contactless Cardiac Feature Extraction From Radar Signals: Advances

and Challenges", *IEEE Transactions on Instrumentation and Measurement (*TIM*)*, Jul. 2023. [Link] (**SCI Q1**).

5. Sijie Xiong, **Yuanyuan Zhang**, Cheng Tang, Haoling Xiong, Yiding Li, Atsushi Shimada, "U-MA: A Unified Framework with Differential Mamba under Parallel U-Net Scheme for Time Series Forecasting", *Engineering Applications of Artificial Intelligence (*EAAI*)*, (Submitted in Dec. 2024) (**SCI Q1**).

6. Sijie Xiong, Cheng Tang, **Yuanyuan Zhang**, Haoling Xiong, Youhao Xu, Atsushi Shimada, "CME-Mamba with Enhancing Nonlinear Dependencies for Time Series Forecasting", Applied Soft Computing **ASC**, (Submitted in Jan. 2025) (**SCI Q1**).

WORKING AND RESEARCH EXPERIENCE

Consulting Projects for Distinct HealthCare   Shengzhen, China
Research Assistant in HKUST(GZ)   *Jul. 2024 -Mar. 2025*
Supervisor: Prof. Yutao Yue

- Project: Predicting Daily Hospital Outpatient Visits based on Time-series Forecasting.

- Thoroughly reviewed the mechanism of the SOTA time-series forecasting models.

- Initial data pre-processing and deep learning model development.

Institute of Deep Perception Technology (JITRI)   Wuxi, China
Research Assistant in Deep Interdisciplinary Intelligence Lab   *Dec. 2021 -Nov. 2025*
Supervisor: Prof. Yutao Yue

- Patent: Safety Distance Reminder System based on Radar-Camera Fusion.

- Application for National Natural Science Foundation of China (NSFC): Pedestrian Intention Prediction for Autonomous Driving using Multi-Modality Fusion.

- Project Declaration: Next Generation of Radar-Camera Fusion System for Transportation with Metamaterial and Epistemic uncertainty.

NARI Group Corporation   Nanjing, China
Research Intern   *Jun. 2019-Aug. 2019*

- Worked as a communications system Engineer in one of the biggest suppliers of *STATE GRID Corporation of China*.

- Validated the Multi-port Ethernet Switch (PCS-9882) following the testing procedures, including Basic Bit Error Rate Testing (BERT), RFC 2544 testing and Multi-stream UDP.

PERSONAL SKILLS AND ACTIVITIES

- **Programming:** C / C++, Julia, MATLAB, Python, PyTorch, GPRmax LaTeX.

- **Language:** Chinese (Native), English (Fluent), German (Beginner).

- **Volunteer:** Primary School Teacher, AIESEC Overseas Volunteer Program in Colombo, Sri Lanka, Jul. 2017.

- **Reviewer for:** IEEE TIM, Neurocomputing.

- **Interests:** Addicted to swimming, Fingerstyle guitar, Classical music .