Yuanyuan ZHANG

LinkedIn | GitHub | y_zhang16@163.com | (+86) 15370023910

EDUCATION

University of Liverpool (in XJTLU Campus) **Suzhou, China**
Ph.D. in Electrical and Electronic Engineering *Dec. 2021 - Nov. 2025*
Supervisor: Prof. Rui Yang

- **Thesis:** Robust Cardiac Feature Monitoring based on Millimeter-Wave Radar
- **Research Interests:** Device-free Monitoring, Sparse Signal Processing, Multi-task Optimization, Time-series Forecasting, Robust Deep Learning, Transfer Learning

Imperial College London **London, UK**
M.Sc. 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**
B.Eng. 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**, 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**, Apr. 2025. [Link]
2. **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,** Apr. 2025. [Link]
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 2025***)*, Jul. 2025. (Oral Presentation) [Link]
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**, Jul. 2023. [Link]
5. **Yuanyuan Zhang**, Haocheng Zhao, Sijie Xiong, Rui Yang, Eng Gee Lim, Yutao Yue, "From High-SNR Radar Signal to ECG: A Transfer Learning Model with Cardio-Focusing Al-

gorithm for Scenarios with Limited Data", **IEEE Transactions on Mobile Computing**, (Under Major Revision).

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**, Aug. 2025. [Link]

7. 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**. (Under Review)

Working and Research Experience

Consulting Projects for Distinct HealthCare **Shenzhen, 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. 2024*
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).
- **Volunteer:** Primary School Teacher, AIESEC Overseas Volunteer Program in Colombo, Sri Lanka, Jul. 2017.
- **Reviewer for:** IEEE TIM, Neurocomputing, IEEE WF-IoT 2025
- **Interests:** Addicted to swimming, Fingerstyle guitar, Classical music .