Zheng Rong JIA

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ORCID | GitHub | Google Scholar

RESEARCH INTERESTS

Medical AI, Deep Learning for Healthcare, Predictive Modeling, Multimodal Fusion, Time-Series Forecasting

EDUCATION

Macau University of Science and Technology Macau, China
Bachelor of Science in Software Engineering Graduated: Aug 2025

PUBLICATIONS

Zheng Rong JIA*, Kwong-Cheong Wong*. "Deep Learning for Stroke Mortality Prediction in eICU: A Dual-Tower Transformer Framework." *Accepted by the Chinese Association for Artificial Intelligence (CCAI) Conference* (EI-indexed), 2026. (*Corresponding author)
[Note: Preprint available on zr-jia.github.io]

RESEARCH EXPERIENCE

Medical AI & Predictive Modeling 2025 – 2026
Lead Researcher

- Engineered a Dual-Tower Transformer (DT-Transformer) for stroke mortality prediction using the multi-center eICU database, narrowing the performance gap between deep learning architectures and gradient boosting baselines.
- Designed a decoupled architecture with a Self-Attention mechanism to independently process categorical demographics and numerical vitals.
- Implemented an Adaptive Runtime Safeguard to ensure inference stability against physiological outliers, achieving a stable mean AUPRC of 0.6171 and resolving standard Transformer convergence issues.

Macau University of Science and Technology Sep 2024 – May 2025
Undergraduate Researcher (Final Year Project)

- Designed a multi-temporal scale LSTM model for daily, weekly, and quarterly power load forecasting.
- Achieved a 1.42% MAPE in daily predictions by applying dynamic outlier detection and feature selection (Pearson correlation and mutual information).
- Developed an interactive web-based decision support system for data visualization, outperforming traditional ARIMA models by 82% in quarterly accuracy.

SELECTED PROJECTS

Academic Portfolio Website (zr-jia.github.io) 2026

- Developed and deployed a responsive personal academic website using GitHub Pages to aggregate research publications, CV, and open-source contributions.

PROFESSIONAL EXPERIENCE

China Southern Power Grid Guangzhou, China
Machine Learning Engineering Intern Jul 2024 – Aug 2024

- Processed 60GB of multi-province power equipment inspection data to identify equipment fault frequencies and optimize inspection robot algorithms.
- Contributed to the development of closing and splitting functions for power inspection robots to support real-world operational accuracy.

TECHNICAL SKILLS

- **Programming Languages:** Python, C/C++, Java, JavaScript, MATLAB
- **Machine Learning & Data Science:** PyTorch, Pandas, NumPy, LSTM, Transformer, XGBoost, GRU, ARIMA
- **Tools & Frameworks:** Linux, Git, SQL, LaTeX, HTML/CSS