

Dalian,  
Liaoning China 116026

# Wankang Zhai

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## Research Interests

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### Biomedical Engineering

- Survival Prediction, Clinical Application, Multimodal Analysis, Medical Image Computing

### Deep Learning application

- Few shot learning, Meta Learning, Interpretable Artificial Intelligence

### Math and DL Theory

- Optimization and Convergence for DL model

## Education

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Dalian, China	Dalian Maritime University	Fall 2021 – present
• B.S.E. in Electronic Engineering, In-major GPA: 3.85/4.0. Machine Learning 96/100; System and Signals 99/100; Calculus I II III average 90+; statistics 99/100;		

## Publications

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SCI (Recognized Journal)	Biomedical Engineering	UNDER WRITTING
• Lightweight few shot learning: portable ECG monitoring model authors: <b>Wankang Zhai</b> , Yuhan Wang, Jitong Ma		

SCI (Recognized Journal)	Bioinformatics	UNDER WRITTING
• ResSurv: A novel approach model combined Cox Propagation Hazard model and ResNet authors: <b>Wankang Zhai</b> , Baoshan Ma, Yuxuan Zhao		

SCI (Recognized Journal)	Bioinformatics	UNDER WRITTING
• XGBENC : a scalable and interpretable survival prediction model based on XGBoost; authors: Baoshan Ma, Yuxuan Zhao, <b>Wankang Zhai</b>		

IEEE Conference : AINIT	Bioinformatics	ACCEPT
• A Closer Look at Deep Learning Survival Prediction for High-Throughput Data; authors: <b>Wankang Zhai</b> , Yuhan Wang, Feng Tang, Boyang Chen		

SCI Expert Systems	Fuzzy and Fault diagnosis	UNDER REVIEW
• An axiomatic fuzzy set theory-based fault diagnosis approach for rolling bearings; authors: Xin Wang; Hanlin Liu; <b>Wankang Zhai</b> Shuyao Zhang; Hongpeng Zhang;		

SCI Advanced Engineering Infor	Fuzzy and Fault diagnosis	UNDER REVIEW
• Interpretable Two-channel Fuzzy Convolutional Neural Networks through Layer-wise Relevance Propagation for Wind Turbine Gearbox Fault Diagnosis; Hanlin Liu; Xurui Zhang; Chenyong Wang; Chenzhao Bai; Xinran Wang; Jiali Feng; <b>Wankang Zhai</b>		

## Experience

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Dalian Maritime University	Fuzzy and Diagnosis Lab	Oct.2022 - Oct.2023
• <b>Undergraduate Research Intern</b> -Supervisor: Prof. Xin Wang Explore Fuzzy Math, Fuzzy Clustering, and Deep Learning with Fuzzy Methods. Code is available at: <a href="https://github.com/Madrigalpp/AFS-">https://github.com/Madrigalpp/AFS-</a>		

Dalian Maritime University	Quantitive Biology Lab	Oct.2023 - Present
• <b>Undergraduate Research Intern</b> -Supervisor: Prof. Baoshan Ma Using Torch to realize DeepSurv, Cox-nnet, AE-cox, etc. Produce ResSurv (SOTA for TCGA cancer survival		

prediction for Single-omics miRNA)

Code is available at: <https://github.com/Madrigalpp/Bioinformatics>

**Dalian Maritime University**

**Biomedical Engineering Lab**

**Feb.2024 - Present**

- **Undergraduate Research Intern** -Supervisor: Prof. Jitong Ma  
Using Torch to realize Lightweight Few-Shot Learning for ECG disease diagnosis

### **Selected Awards**

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- **National First Prize** in the Global Artificial Intelligence Challenge (Top 3%)
- **First Prize** in "Microsoft" Challenger Cup (Top 5%)
- Dalian Maritime University Scholarship (Top 10%)

### **Languages and Technologies**

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- **skills** LaTeX; C; Python; R; Assembly language;
- **languages** English; Chinese;

### **Reference**

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#### **Supervisors Google Scholar**

- **Prof. Baoshan Ma**  
<https://scholar.google.com/citations?hl=zh-CN&user=bQK8kkoAAAAJ>
- **Prof. Jitong Ma**  
<https://scholar.google.com/citations?hl=zh-CN&user=A0NZNpQAAAAJ>