

Wang, Ruijun

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🔗 ResearchGate

🔗 ORCID

Education and Work Experience

Inner Mongolia Yuhong Construction Engineering Co., Ltd, Employee

- Data Analyst

China
2023 - Present

MEng North China Electric Power University, Energy and Power

- **Dissertation:** Research on Fault Diagnosis of Wind Turbine Gearbox Based on Deep Learning
- **GPA:** 3.50/4.0
- **Ranking:** Department ranking: 11/180; Professional ranking: 7/106 (2022)
- **Honor and Award:** Outstanding graduate student (2022)
- **Coursework:** Equipment Status Detection and Fault Diagnosis Technology; Big data and Artificial Intelligence; Detection Technology; Matrix Theory; Numerical Analysis; Mathematical Programming etc.

China
2020 – 2023

Beijing Huazhidian Technology Co., Ltd

- Student Assistant

China
2021 – 2022

Inner Mongolia Taili Engineering Construction Co., Ltd, Practice

- Engineer

China
2019 – 2020

BEng Inner Mongolia University of Technology, Building Environment and Energy Application Engineering

- **Coursework:** Advanced mathematics; Linear Algebra; Probability theory; Automatic control principle; Advanced Computer Programming; Mechanical Design; Building environment and equipment engineering CAD etc.

China
2015 – 2019

Academic Paper

Published

- **R. Wang**, Y. Liu, Z. Fan*, “ Application of a Dense Fusion Attention Network in Fault Diagnosis of Centrifugal Fan. ” *arXiv preprint arXiv:2311.07614* [🔗](#). (*Applied Intelligence*, IF=5.3, Q2. (Accepted))
- X. Xu(supervisor), **R. Wang(co-first author)**, Z. Fan*, X. Ma, Z. Zhao and H. Wang, “ MS-DRT: A Multi-level and Multi-scale Branch Learning Scheme for Fault Diagnosis of Rotating Machinery. ” *IEEE Transactions on Industrial Informatics*, vol. 20, no. 2, pp. 2799-2811, 2024. (Journal Articles, IF=12.3, Q1)
- X. Zhu*(supervisor), **R. Wang(co-first author)**, Z. Fan, D. Xia, Z. Liu and Z. Li, “ Gearbox Fault Identification Based on Lightweight Multivariate Multidirectional Induction Network. ” *Measurement*, vol. 193, Art.no.110977. (Journal Articles, IF=5.6, Q1)
- Z. Fan*, X. Xu(supervisor), **R. Wang** and H. Wang, “ Fan Fault Diagnosis Based on Lightweight Multiscale Multiattention Feature Fusion Network. ” *IEEE Transactions on Industrial Informatics*, vol. 18, no. 7, pp. 4542-4554, 2022. (Journal Articles, IF=12.3, Q1)
- Z. Fan*, X. Xu(supervisor), **R. Wang** and H. Wang, “ CF-HSACNN: A Joint Anti-noise Learning Framework for Centrifugal Fan State Recognition. ” *Measurement*, vol. 202, Art.no.111902. (Journal Articles, IF=5.6, Q1)
- X. Zhu*(supervisor), X. Ye, **R. Wang**, W. Zhao, X. Luo, J. Zhao, Z. Han, X. Gao, “ Investigation and Experimental Study on Gearbox Vibration Fault Diagnosis Method Based on Fusion Feature Convolutional Learning Network. ” *Experimental Techniques*, pp. 1-12, 2022. (Journal Articles, IF=1.6, Q3)
- B. Qian, J. Huang, X. Zhu*(supervisor), **R. Wang**, X. Lin, N. Gao, W. Li, L. Dong, W. Liu, “ Research on the Fault Diagnosis Method of a Synchronous Condenser Based on the Multi-scale Zooming Learning Framework. ” *Sustainability*, 14(22), 14677, 2022. (Journal Articles, IF=3.9, Q2)

Process

- **R. Wang**, Z. Fan*, Y. Liu, “ A Meta-learning Approach via Multidistributed Coding for Gearbox State Recognition ”.
- **R. Wang**, Z. Fan*, Y. Liu, “ Stall Prediction of Centrifugal Fan and Uncertainty Quantification Analysis Based on Multi-sensor Data Fusion ”.
- Z. Fan*, **R. Wang(co-first author)**, Y. Liu, “ Exploring the Generalization of Nonlinear Learning Patterns for Composite Fault Diagnosis of Gearbox ”.

Academic and Research Experience

Peer Review *(As reviewer of conference)*

- 7th International Conference on Computer Science and Application Engineering

Participated in book writing *(Participate in revision work for text, formula, chart and model.)*

- **Book title:** Intelligent Monitoring Method and Application of Vibration Status of Electric Power Equipment

Participated in research projects *(Writing project application and project paper; Providing project algorithm program.)*

- State Grid Xinjiang Electric Power Research Institute 2022 300MVar Synchronous Condenser Fault Diagnosis Technical Service
- Development of Energy Management Platform for Carbon Neutrality Smart Park of State Power Investment Corporation (SPIC)
- Research on Vibration Feature Representation and State Identification Method of Wind Turbine Transmission System under the Framework of Deep Learning
- Development of Intelligent Detection and Management System for Wind Turbine

Participated academic conferences

- 2022 Hebei Vibration Engineering Society Conference
- 2021 Academic Annual Conference of Dynamic Testing Professional Committee of Chinese Society of Vibration Engineering
- 2020 Chongqing Wind Energy Annual Conference

Software copyrights

- Software for wind turbine gearbox status monitoring system
- Software for wind turbine blade defect detection system

Guidance experience

- Supervised a total of 6 undergraduate design students

Skill and Language

Skills: Able to use software such as Python, Matlab, Origin, AI and Visio

Languages: English - Fluent (TOEFL: 100), Mandarin - Native speaker

Algorithm Training on AI

Hunan Gupao Network Technology Co., Ltd, Trainee

China
2022 – 2023

- **Machine Learning:** Linear Regression; Logistic Regression; Clustering Algorithm; Decision Tree; Ensemble learning; Support Vector Machine; Bayesian Algorithm; Association Rule Algorithm - Apriori; Word Vector Model - Word2Vec; Linear Discriminant Analysis; Principal Component Analysis; Hidden Markov Model etc.
- **Deep Learning:** Core Algorithms - Neural Network, CNN, RNN, Transformer, VIT etc.; Object Detection - MaskRCNN, YOLO series, Detr, Semi Supervised Learning, EfficientNet etc.; Image Segmentation - Unet, U2Net, DeepLab etc.; Behavior Recognition - SlowFast; GNN; PointNet; GAN; RL etc.