ZIYUN ZHANG

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ABOUT ME

- Skilled team player with the ability to handle pressure, possessing strong execution and communication skills, along with exceptional team management abilities.
- Proficient in programming, with expertise in deep learning model construction and algorithm research.
- **Research interest include:** Application of deep learning in power systems, especially in wind power; deep learning with privacy protection; power and load forecasting.

EDUCATION

Master of Renewable Energy and Clean Energy Sep. 2022 - Present

School of New Energy, North China Electric Power University **Average Scores: 86.4/100**

Supervisor: Prof. Jie Yan

Coursework: Technology of Digital Signal Processing, Modern Control Theory, Mathematical Programming, Wavelet Analysis: Theory and Application, Solar Cell Photovoltaic Technology and its Application, Time Series Analysis, Theory and Application of Machine Learning.

Bachelor of New Energy Science and Engineering Sep. 2018 - Jun. 2022

School of New Energy, North China Electric Power University **Average Scores: 89.59/100 Ranking 1/67**

Coursework: Advanced Mathematics, Linear Algebra, Probability Theory, Principles of Wind Power Generation, Electrical Engineering of Wind Farms, Automatic Control Theory, Circuit Theory, Electromechanics.

EXPERIENCE

National Key Research and Development Program of China Jan. 2023 - Dec. 2025

- **Program's name:** Research on Collaborative Optimization Technology of Human-Source-Load-Carbon Interaction in Carbon-Neutral Urban Energy Systems Driven by Population Trajectory Big Data
  - As a researcher, responsible for research on integrated prediction models of renewable energy electricity and flexible energy use considering data privacy protection.

New generation of grid-friendly green power station program Jun. 2021 - Dec. 2024

- **Program's name:** Research on Key Technologies for Smart Joint Regulation and Operation Maintenance of Wind-Solar-Storage Power Station Group Friendly to the Grid
  - As a researcher, responsible for the development and debugging of the wind power forecasting system, including model design, model testing, and operation and maintenance of the wind power forecasting system.

College Students' Innovation and Entrepreneurship Training Program Dec. 2020 - Dec. 2021

- **Program's name:** Intelligent Wind Power Storage System Based on Vortex-Induced Vibration Principle
  - As team leader, responsible for theoretical research and overall management planning.
  - This project won the National First Prize in the 14th National University Student Social Practice and Science Contest on Energy Saving and Emission Reduction and Technology Competition.

PUBLICATIONS AND PREPRINTS

1. **A Novel Prediction Method for Ice Accretion Events on Wind Turbines**, published in the proceedings of the 5th IEEE Sustainable Power and Energy Conference (iSPEC).

2. **A Novel Privacy-Preserving Wind Speed Prediction Method Based on Split Learning**, in preparation.
3. **An Adaptive Parameter Updater Approach for Federated Learning in Wind Power Forecasting**, in preparation.

CAMPUS ACTIVITIES

Class monitor, NCEPU Sep. 2022 - Present

- Serving as the class monitor for the graduate class, which was recognized as one of the top ten exemplary class collectives.
- Lead the class to participate in volunteer service activities, and take on social responsibilities.

Mathematical Contest in Modelling (MCM/ICM) Feb. 2020

- Extended the AD-AS model to the aggregate supply and demand model to solve the problem of plastic waste.
- Generate high-quality spreadsheets for all plastic-related events within a year.

AWARDS

- Outstanding Graduate Student of North China Electric Power University **2023.09**
- Outstanding Graduate Student Leader of North China Electric Power University **2023.09**
- The First Prize Academic Scholarship **2023.09**
- Xiehe New Energy First Prize Academic Scholarship for Graduate Entrance **2022.09**
- First Prize Academic Scholarship for Graduate Entrance **2022.09**
- National First Prize in the 4th China Renewable Energy Society College Student Outstanding Science and Technology Works Competition **2021.08**
- National First Prize in the 14th National University Student Social Practice and Science Contest on Energy Saving and Emission Reduction and Technology Competition **2021.08**
- School-level Outstanding Student of North China Electric Power University **2020.12**
- Xiehe New Energy First Prize Academic Scholarship **2020.12**
- The First Prize Academic Scholarship **2020.12**

ADDITIONAL SKILLS

IT Skills

- Advanced in Microsoft Office Suite
- Proficient in C, MATLAB, Python, LaTeX, SolidWorks

Language

- Chinese: Native
- English: CET-6, preparing for the IELTS

Others

- Full Clean Driving License
- Radio Station License of the People's Republic of China