Yin Jingya
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EDUCATION

Nanjing University of Information Science and Technology 09/2021 — 06/2025
B.S. in Atmospheric Science GPA: 3.82
Major courses: Calculus 1 (96/100); Linear Algebra (96/100); Probability and Statistics (94/100); Principles of Meteorology (92/100); Thermodynamics (92/100); Atmospheric Chemistry (92/100).

SKILLS

- **R Data Visualization and Mining Tech Stack:** Proficient in data analysis using the `tidyverse` style. Skilled in data visualization techniques using `ggplot2`. Well-versed in machine learning coding techniques using `mlr3verse`. Experienced in coding pipelines, graph learners, and cross-validation.
- **Python Meteorological Data Analysis Tech Stack:** Familiar with packages such as `Xarray`, `metPy`, `Cartopy`, etc. Experienced in implementing deep learning and transfer learning projects.
- **Weather Forecasting Expertise:** Possess a solid understanding of the fundamental principles underlying weather forecasting. Familiar with the workflow of statistical forecasting and numerical model forecasting.
- **Familiarity with Numerical Modeling:** Have experience working with numerical models such as WRF and SWAN. Able to utilize WRFDA for radar data assimilation purposes.
- **Communication:** Fluent in Mandarin and Cantonese. Proficient in English (CET-6).

RESEARCH EXPERIENCE

Wave Image Inversion Project based on Transfer Learning In Process
Completed a paper titled A New Method to Observe Wave Run-up from Video Images Based on Transfer Learning. Currently in the process of submitting it to the Remote Sensing journal as the second author, with my supervisor as the first author. 08/2023—on

- Developed the concept of utilizing transfer learning to improve wave image inversion.
- Implemented Python programming to execute transfer learning using the ResNet-50 model, which successfully obtained feature vectors.
- Utilized OpenCV and advanced computer vision techniques to accurately calibrate images for further analysis.
- Organized and processed data using R language, combined feature vectors with experimentally obtained position coordinates to create comprehensive datasets.
- Conducted benchmark tests of various machine learning algorithms and generated insightful visualizations such as box plots using the mlr3verse package to evaluate their performance.

Evaluation Project of Offshore Wind Farm Site Selection Plan In Process
Completed a paper titled Enhanced TOPSIS-RSR Approach for Evaluating Offshore Wind Farm Site Selection Plans. Intending to publish this paper as the first author in a core journal. 09/2023—on

- Developed a meteorological and wave numerical model covering the study area using wind fields from the mesoscale WRF model and wave data from the SWAN model, and conducted 10-year simulations to calculate characteristic parameters.
- Constructed evaluation indicators based on knowledge in meteorology and statistics.
- Built mathematical models and programmed them using Python, utilizing the plotly package to generate advanced visualizations such as radar charts.
- Conducted sensitivity analysis related to weight settings using Python, implementing programming techniques such as parallel acceleration and progress bar setting.

AWARDS & HONOR

- Meteorological Elite Scholarship, NUIST (4000 CNY, **Top 10%**) 2023.9
- First Prize Scholarship, NUIST 2021 - 2022
- Merit Student, NUIST 2021 - 2022
- First Prize in China University Big Data Challenge 2022.12
- Second Prize in May Day Mathematical Contest In Modeling 2021.7
- Registered Volunteer, China 2021