Haitong Lan

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Gender: Male · Hometown: Shandong China

EDUCATION

Beijing University of Posts and Telecommunications, Telecommunications Engineering and Management, *Undergraduate* 2022.9 - present

- **Major Courses**: Probability Theory and Stochastic Processes, Functions of Complex Variables, Methods in Mathematical Physics, Computational Methods, Signals and Systems, Digital Signal Processing
- **GPA**: 3.74/4 **Rank**: 10/308

Projects and Competitions

Blind Source Separation Research Project project members 2023.11-2024.2

- **Project Resume** Research project carried out by the Optical Communication Laboratory of the School of Information and Communication Engineering College, Beijing University of Posts and Telecommunications , applying the blind source separation technology to solve the problems of hydroacoustic detection and heart electrical detection.
- **Personal work** Read relevant papers on the subject, mastered the principles of the classical blind source separation algorithm, conducted algorithm experiments and effect comparisons between different algorithms using computer simulation.

2024 National Student Statistical Modelling Competition team captains 2024.4-2024.5

- **Project Resume** This project is a participation paper for the Statistical Modelling Competition, aiming to apply the new type of artificial intelligence and big data statistical models to model and predict mountain fires in the Daxinganling region.
- **Personal work** Constructing a machine learning model for the prediction study of mountain fires in the Daxinganling region. And compared the prediction effect of traditional machine learning methods and deep learning methods.Use Monte Carlo method to heuristically optimise the hyperparameters of the LSTM neural network, so that the neural network can adaptively set the hyperparameters.

2023 Computational Methods course final design author 2024.1-2024.2

- **Project Resume** Computational Methods final course design, which requires the construction of a highly accurate numerical algorithm for solving a marginally ordinary differential equations.
- **Personal work** Aiming at solving boundary valued ordinary differential equations, the classical solving algorithms such as Runge-Kutta method and multi-step method are summarized. Combined with the finite difference algorithm of uniform nodes, a finite difference algorithm of non-uniform nodes with Legendre polynomial zeros as nodes is constructed, and Matlab simulation is used to verify the conclusion that the finite difference algorithm of non-uniform nodes can effectively improve the solving accuracy.

Awards

- 2023 First Prize of National University Student Mathematics Competition in Beijing
- 2024 First Prize in National Student Statistical Modelling Competition (Beijing)
- 2023 Second Prize in Physics Competition for College Students in Selected Regions of China
- 2023 Second Prize in Beijing University of Posts and Telecommunications Intramural Physics Competition

Skills mastery

- Computer Languages: C Python JAVA
- Data Analysis Software: Matlab Mathematica SPSS Arcgis
- Thesis writing tools: Latex Word