

# WEIYE HUANG

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## 🎓 EDUCATION

**Lanzhou University**, Lanzhou, China 2020 – Present  
M.S. in Agricultural Economic Management, expected June 2023, **Score:** 89.04/100, **Tutor:** Wenlong Li  
Research orientation: Hyperspectral Remote Sensing and Machine Learning  
Graduation project: Grassland ecosystem monitoring based on multi-source remote sensing data,

**Central South University**, Changsha, China 2016 – 2020  
B.S. in Information Management and Information System, **Score:** 89.63/100, **Tutor:** Xiaohong Chen(Academician)  
Graduation project: Data analysis of online repair platform of Central South University

## ❖ RESEARCH INTERESTS

- Data Mining and Environmental Management
- Remote Sensing and Geographic Information System

## 👤 EXPERIENCE

**Dynamic monitoring of natural grassland ecosystem on Qinghai-Tibet Plateau based on hyperspectral remote sensing** 2020 – Present  
*Project Leader* Individual Project

- Lead a team to complete the field data acquisition task carried out by drones and spectrometers
- Construct a interpretable high-dimensional regression model of grassland biomass
- Propose a new monitoring method for grassland diversity using imbalanced multi-label data classification
- Plan to monitor grassland ecosystem changes based on multi-source spatio-temporal data

**GDP forecast based on night light remote sensing data** 2021  
*Project Leader* Individual Project

- Use DMSP-OLS night light data to analyze and forecast the GDP data of some countries from 1992 to 2020
- Build a four-layer convolutional neural network baseline model, the loss of the test set is close to 0

**Online product review recommendation mechanism based on data mining** 2018 – 2019  
*Project Leader* Team work Project

- Evaluate the quality of online product reviews using natural language processing
- Summarize the main content of comments, screen out the key comments
- The project was approved by Central South University and funded by 8000 yuan

## ✍ PUBLICATIONS

- Huang, W., et al., 2022. Hyperspectral Monitoring Driven by Machine Learning Methods for Grassland Above-Ground Biomass. *Remote Sensing* 14, No. 9: 2086. <https://doi.org/10.3390/rs14092086>
- Huang, W., Guan, K.\*, Hu, Y., Classification of small sample vegetation based on hyperspectral remote sensing and transfer learning. *Remote Sensing of Environment*. SCIE-Q1. Under Review.
- Huang, W., et al., Grassland function groups recognition based on hyperspectral remote sensing and machine learning. *Remote Sensing of Environment*. SCIE-Q1. Ready to Submit.
- Complex spectral classification based on GAN and semi-supervised learning. Working Paper
- General hyperspectral inversion model based on dual channel convolutional neural network. Working Paper

## ⚙ SKILLS

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- Programming Languages: Python, Matlab, R, SQL, C, Java, C #
- Mathematical knowledge: Calculus, Linear algebra, Statistics, Operational research, Discrete mathematics
- Abilities: Data Science, Machine Learning (Feature engineering), Deep Learning (CNN,GAN,GNN)
- Tools (Win/Linux): Pytorch, Keras, Tensorflow, Sklearn, Im-sklearn, Seaborn, MMdet , Statsmodels
- Computer Vision (CV): Image classification, Instance segmentation, Object detection, OCR
- Interest Areas: Signal Processing, Time Series, Recommendation System (RSs), Spatio-Temporal Analysis

## ⚑ COMPETITIONS

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44 <sup>th</sup> /1255 Prize, Tabular Playground Series (Kaggle)	2022
26 <sup>th</sup> /788 Prize, Cattle image instance segmentation(CV)	2022
87 <sup>th</sup> /1300 Prize, Image and text matching based on e-commerce platform data(CV)	2022
118 <sup>th</sup> /1149 Prize, Real scene tamper image detection challenge (CV, Tianchi)	2022
111 <sup>th</sup> /1758 Prize, Fault diagnosis based on large-scale logs (NLP, Tianchi)	2022
147 <sup>th</sup> /2058 Prize, Large-scale e-commerce graph on the risk of commodity detection (GNN, Tianchi)	2022
65 <sup>th</sup> /991 Prize, Iqiyi user retention rate forecast (RSs)	2022
70 <sup>th</sup> /1529 Prize, Xiamen International Bank financial innovation competition(RSs)	2022

## ฿ SCHOLARSHIP

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First-class Scholarship of Lanzhou University	2020
National Encouragement Scholarship	2018
Second-class Scholarship of Central South University ( Top 12 % )	2018
National Grants	2017,2019
Third-class Scholarship of Central South University	2017,2019
Encouragement Scholarship of Fujian Green Ribbon Public Education Fund	2016,2017

## ♡ HONORS AND AWARDS

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Outstanding Party Member of Lanzhou University	2021
Outstanding Student of Central South University	2018
Third Prize for the MatherCup Mathematical Modeling	2022
H Award of American Mathematical Contest in Modeling	2018
Bronze Award of China College Students' Entrepreneurship Competition (Hunan Division )	2018
Champion of the Central South University Football League	2018
Certificate of the CDA data analyst	2018

## ◆ SELF-ASSESSMENT

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- Self-supervised, Self-training, Self-attention, Self-distillation
- Multi-task, Multi-view, Multi-model, Multi-stream

## ℹ MISCELLANEOUS

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- National football referee, Second class
- Excellent campers of the Cross-Strait Youth Day Leaders' Camp (National Level )
- Beijing Zhongguancun Science Innovation Training Camp (Public Expense)
- Data-driven Intelligent Decision Making and Management International Summer School (Zhejiang University)