YINJIAO ZHONG

School for Environment and Sustainability
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EDUCATION

University of Michigan, Ann Arbor **Sept 2023 - Present**
MS in Geospatial Data Science, School for Environmental and Sustainability GPA: **4.00**/4.00
- Awards: Scholarship for 2023-2024 academic year ($15,000)

Chengdu University of Technology (CDUT) **Sept 2019 - Jun 2023**
B.Eng. in Remote Sensing Science and Technology GPA: **3.74**/4.00
- Awards: National Scholarship for 2019-2020, Academic Scholarship for 2020-2022

PATENTS

- **Yinjiao Zhong**, Xiaoqiao Zhong, Yue Zhang, Qinyu Long, Huiying Wang, Xingcen Liu, "A Mechanical Setup for Carrier Frame that Facilitates the Use of Remote Sensing Mapping Drones", Utility Model Patent, Patent No.: ZL 2022 2 1980338.4, 2022.7

RESEARCH EXPERIENCE

Examination Drought Impacts on Vegetation across U S. Using Machine Learning Models | Independent Project **Sept 2024 - Present**
University of Michigan, Ann Arbor
- Processed NDVI and SPEI data for temporal analysis of vegetation
- Incorporated lagged SPEI variables to study delayed vegetation responses to drought
- Trained machine learning models to predict NDVI with drought-induced lag effects and interpreted key drivers using feature importance and Shapley values

Quantifying Carbon Storage in Illinois Restored Ecosystems with Remote Sensing Techniques, Champaign-Urbana, Illinois, USA **Jan 2024 - Present**
University of Michigan, Ann Arbor
- Utilized LiDAR data to calculate Canopy Height Model(CHM) in R
- Integrated Machine Learning to train models for biomass estimation
- Created a formula to fit biomass from field measurements and CHM from LiDAR using nonlinear regression to improve the precision of carbon storage predictions

Carbon Emission Inversion in the Yangtze River Delta Premised on Night Light Remote Sensing and Spatiotemporal Pattern Analysis | Team Leader **Apr 2022 - Jun 2023**
Chengdu University of Technology, CDUT
- Built a comprehensive nighttime light remote sensing dataset for the Yangtze River Delta, spanning 1995-2019 using DMSP_OLS and NPP_VIIRS data
- Utilized trend analysis, F-test, Moran's I index, and ridge regression to analyze the spatiotemporal evolution of carbon emission and identify driving factors and a stable pattern of carbon emissions clustering
- Assessed the influence of industrial structure and urbanization on the spatial distribution of carbon emissions

Ecological Restoration of the Yangtze River Basin and the Western Sichuan Ecological Red Line Project | Research Assistant **Sept 2022 - Nov 2022**
Chengdu Institute of Mountain Hazards and Environment, CAS
- Realized the preprocessing of remote sensing images based on IDL in batches
- Completed remote sensing interpretation and monitoring of river ecology
- Assisted in the project results report using the accuracy of R test results

Precise Screening and Prevention for Close Contacts of the COVID-19 | Team leader
Nov 2021 – Jun 2022

The 13th China Adolescents Science & Technology Innovation Contest

- Provided the overall conceptual framework of the project and determine the topic selection
- Compiled movement trajectory data of COVID patients and determine their movement status by using Beidou navigation and inertial navigation system based on C#
- Designed software user interface and administrator interface based on Android Studio
- Visualized the activity traces of COVID patients and close contacts based on ArcGIS

Result: **The Second Prize Winner of Nationwide** (Undergraduate Group)

Research on the Degradation Mechanism of Ecosystem in Western Sichuan Plateau-A Case Study of the Upper Reaches of Minjiang River | Team leader **Apr 2021 – Jun 2021**

College Students' Innovation and Entrepreneurship Training Program, CDUT

- Used RUSLE model to analyze the water retention capacity, soil and water conservation capacity and biodiversity of Minjiang River basin
- Analyzed ecological degradation in the study area based on carbon storage models such as CASA and DNDC
- Based on MATLAB for 3D visualization and degradation factor analysis

Result: **The First prize** (School Level)

Inversion of Soil Moisture Content in Zoige Plateau Wetland | General leader

Science and Technology Training Project, CDUT **Oct 2020 - Jun2021**

- Utilized Sentinel-1 radar remote sensing data to model soil moisture levels in study area
- Processed backscatter coefficient data in GEE, enabling efficient handling of large datasets
- Combined satellite data with field measurements for model validation and used regression analysis to map soil moisture variations across the wetland in R

EXPERIENCE

SuperMap, Chengdu | GIS Intern **Jun 2023 – Aug 2023**

- Assisted engineers with HTML and WebGIS based development
- Performd 3D WebGIS architecture design
- Realized the rendering display of 3DTiles of mainstream map services

Majiaoba Fieldwork Base, CDUT **Jul 2022 – Sept 2022**

- Conducted geometric correction and fusion enhancement of images in the practice area
- Carried out supervised land-cover classification based on high resolution image
- Collected field sample data, formulated field reconnaissance route

Physical Geography Course | Teaching Assistant **Sept 2021 – Jul 2022**

Professor Yi, School of Earth Science, CDUT

- Assisted in preparing the class content
- Taught students to process data using GIS software in laboratory class

EXTRACURRICULAR ACTIVITIES

Prospective Graduate Student Summer School 2022

- Global Change and Earth System Science Research Institute, Beijing Normal University
- School of Atmospheric Sciences, Sun Yat-Sen University

Member of the Chengdu Young Volunteers Association 2021

Outstanding Student Representative of the Freshmen Welcome Activity, CDUT 2020

SKILLS & RELEVANT COURSES& INTERESTS

Languages	Chinese (Native), English: TOEFL (104), GRE: (164 + 170 + 4.0)
Programming	R, Python, MATLAB, C#, JAVA
GIS & RS software	ArcGIS, QGIS, ENVI, ERDAS
Relevant Courses	GIS, Remote Sensing, Python, Servers Shell and Git Natural Resource Statistics, Machine Learning