

YU-YUN ANNIE RUAN

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As a passionate geospatial analyst focusing on ecological conservation, I strive to leverage big data to mitigate environmental impacts, promote natural ecosystems' recovery

EXPERIENCE

Geospatial Researcher

Lubbock, TX

NASA DEVELOP National Program

June 2024 - Aug 2024

- Conducted wildfire risk analysis in Cordoba, Argentina, by integrating NASA Earth Observation Data. Mapped burned areas, calculated environmental parameters, and developed wildfire risk maps for local organizations' fire prevention and management strategies.

Intern

Worcester, MA

Geospatial Ecosystem Conservation Lab at Clark University

June 2023 - Nov 2023

- Conducted analysis of landscape changes around 606 sampling sites in Brazil's Atlantic Forest, using mapbiomass and extracting key landscape metrics to assess ecosystem resilience and the potential for zoonotic spillover risk.
- Utilized advanced analytical software, including Python, R, and Fragstats, to deliver crucial data on biodiversity, contributing to a vital understanding of forest fragmentation and regeneration.

Student Assistant

Palm Spring, CA

ESRI Developer Summit 2023

Mar 2023

- Provide support in registration and attended to session attendees, to ensure a seamless and enriching conference experience. Assist participants with inquiries, guiding them through the event, and addressing their needs effectively.

Office Assistant

Taichung, Taiwan

Union Land Administration Agent Office

Feb 2019 - Nov 2021

- Facilitate effective communication and collaboration between the company and public sector entities. Provided comprehensive administrative support to optimize office operations and enhance overall efficiency.

Research Assistant

Hualien, Taiwan

National Dong Hwa University

Sep 2016 - Jun 2018

- Assist in multiple research projects, including the investigation of terrestrial ecology in the East Coast National Scenic Area of Taiwan, the resilience of the social-ecological system in the Central East Rift Valley of Taiwan, and the long-term forest dynamics plot investigation in the Pasoh Forest Reserve of Malaysia.
- Assist with installing and maintaining field equipment, such as infrared cameras, and conducted data collection (N = 30) and analysis in R. Tracked and identified mammal and plant species through field investigations and surveys, providing valuable insights for the project.

SKILLS

Highlights: Geospatial analysis, Cartography, Remote sensing, Web Mapping, Machine learning, Landscape Ecology, Fieldwork (Wildlife Radio Telemetry, Camera Trap, Wildlife Identification)

Programming: Python (ArcPy, Pandas, NumPy), R, SQL, HTML, CSS, JavaScript

Software: Esri Products (ArcMap, ArcGIS Pro, ArcGIS Hub, ArcGIS StoryMaps, Survey123), QGIS, TerrSet, OpenStreetMap, PostgreSQL (PostGIS), Google Earth Engine, Fragstats, Zonation, MSPA, GitHub, Microsoft Office Suite

EDUCATION

Clark University, GPA: 3.8

Worcester, MA

M.Sc. in Geographic Information Science (Conservation Application)

Jan 2022- Dec 2023

National Dong-Hwa University

Hualien, Taiwan

B.S. in Natural Resources and Environmental Studies (Ecology and Conservation, Environmental Policy Management)

2014-2018

PAST PROJECT

Distinguishing Gilbertiodendron Dewevrei and Mixed Forest in the Okapi Wildlife Reserve, Democratic Republic of Congo, using multi-source satellite data.

May 2022

- Utilized remote sensing and machine learning in R to analyze forest diversity in the DRC Forest, generated precise maps for the Okapi Wildlife Reserve, supporting conservation and regional forest dynamics analysis.
- Evaluated map accuracy, compared Sentinel-2 and PlanetScope datasets, and offered insights on their strengths and weaknesses, enriching the understanding of forest dynamics and conservation efforts.