Shan Gao

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Education

Geographic information Systems — Arizona State University
Master of Advanced Study — 2021–2022

Parks and Recreation Management — Arizona State University
Bachelor of Science — 2017–2021

Human Geography and Urban Planning — Hainan University
Bachelor of Science — 2017–2021

Academic Coursework

- Introduction to Geographic Information Systems (A)
- Intermediate GIS (A)
- Spatial Statistics (A)
- Implementation in Corporate and Public Sectors (B)
- GIS Project Presentation (B)
- Programming the GIS Environment (A)
- GIS Technologies (A+)
- GIS for Business (A)
- GIS for the Internet (A)

Research Experience

Student Intern — 2021–2022
Center for Global Discovery and Conservation Science

- **Data Processing**: Based on satellite imagery modify the Mangrove China 2018 data and created 849 polygons as mangrove core areas for data verification.
- **Classification**: Use Random Forest Supervised Classification method to classify the Hainan Island mangrove forest with Landsat 8 satellite imagery
- **ArcGIS Model**: Combine mangrove 2018 data and satellite imagery to recreate the general distribution of mangrove with tool of reclassify, majority filter, and boundary clean tool

Student Assistant — 2020–2020
China University of Geoscience

- **Information Collection & Screen**: Research specific cases in Danxia mountain, Mogao Grottoes, The Grand Canyon, and Yellow Stone National Park in literature, comparing the legislation and motivation system between China and U.S. volunteering system.
- **Data Analyze Related to World Heritage**: Collect and analyze data related to World Heritage volunteer initiatives and provide a report to demonstrate growth opportunity of China World Heritage volunteer system.

Skills

- Programming languages: Python, HTML, MATLAB, SQL, LaTeX, JavaScript
- GIS/Remote Sensing software: ArcGIS, Metashape, Google Earth Engine, AutoCAD
- Other Tools & softwares: SQL Server Management Studio, Azure, Ubuntu, VOSviewer

PROJECTS

Capstone Project - Monitoring Central Arizona Lakes 2022
Created timelapse by Google Earth Engine from 2010 to 2021 and Palmer Drought Severity Index to find out the proper year to analyze. Classify Mormon Lake, Lynx Lake, and Watson Lake using ISO Cluster Unsupervised Classification, Support Vector Machine Supervised Classification, and U-Net Deep Learning Classification methods in ArcGIS. Compare different classification methods on accuracy level and visual effect level, and calculate the estimated time of processing.

Tempe Public Art Installation Project 2021
Propose several methods and data to find the potential art installation according to the core concept of economic equity, social equity, and racial equity. Reference the offenses analysis and land use data, locate three vacant areas in Tempe, and suggest building a landmark.Implement the geodatabase, well-designed maps, analysis, web app, presentation, and executive summary for the project.

Graduation Project - Monitoring Mangrove Change in Nature Reserve 2021
Classify the mangrove area in Dongzhaigang Nature Reserve, using Landsat 8 data from 2014 to 2020 on Google Earth Engine. Bring about NDVI & mangrove area change curve from 2013 to 2020, also provides protection recommendations for local authority based on the mangrove shrinking fact and interview.

MEETINGS & CONFERENCES

American Association of Geographer 2023 Annual Meeting 2023

UAV Vegetation Remote Sensing Technology and Application Salon 2023

The Colorado River at the Compact's Centennial 2022

PROFESSIONAL MEMBERSHIPS

American Assiociation of Geographers 2022 - Now

CERTIFICATIONS & TRAINING

Advanced Computing Techniques Training 2023
Arizona State University

FAA Part 107 Remote Pilot Certificate 2023-2025
Federal Aviation Administration

Beginner's Guide to Research Computing Training 2022
Arizona State University

The Third Quantitative Remote Sensing Graduation Certificate 2021
Wuhan University