Sarigai (Rose) Sarigai

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https://sarigai-geoair.github.io/

EDUCATION

University of New Mexico   *Albuquerque, NM*
Doctor of Philosophy in Geography, emphasis in GIScience   *August 2020 - present*
Dissertation topic "A universal computational and visual framework for sensing geospatial big data using geovisualization and GeoAI"   Current GPA 3. 94

Eastern Michigan University   *Ypsilanti, MI*
Master of Science in Geographic Information Science   *December 2019*
                                                                                                      Overall GPA 3. 88

Heilongjiang University   *Harbin, China*
Bachelor of Engineering in Hydrology and Hydropower Engineering   *July 2016*

TEACHING EXPERIENCE

University of New Mexico, Department of Geography & Environmental Studies   *Albuquerque, NM*
Instructor of record, Map and GIScience   *Spring 2024*
Under the supervision of faculty, developed curriculum, instructed, and graded for an introductory undergraduate course (27 students).

Guest lecture at class GEOG525 at the University of New Mexico   *Albuquerque, NM*
Presenter   *November 5, 2023*
Introduction to ArcGIS StoryMaps

University of New Mexico, Department of Geography & Environmental Studies   *Albuquerque, NM*
Teaching Assistant, Intro to GIS, Dr. Liping Yang   *Fall 2023*
Under supervision of faculty, assisted with lab curriculum development, lab instruction delivery, and grading for two sections of an Introductory graduate course (16 students).

Eastern Michigan University, Department of Geography and Geology   *Ypsilanti, MI*
Graduate Assistant/ Teaching Assistant   *Fall 2017- Winter 2018*
Under supervision of faculty, assisted with students' coursework and projects, students' difficulty in GIS software such as ArcGIS and QGIS, and grading for an introductory undergraduate course.

RESEARCH EXPERIENCE

The Nature Conservancy   *Remote*
Innovative Intern, New Jersey Chapter, Cities Team   *May 28 - Aug 16, 2024*
Worked to develop methods and models for estimating the impact of trees in mitigating urban heat

The National Aeronautics and Space Administration   *Albuquerque, NM*
Research Assistant, Dr. Liping Yang   *September 1, 2022 – May 31, 2023*
Predictive Intelligence for Pandemic Prevention Phase I: Development Grants (PIPP Phase I)
- assisted with JavaScript and Python coding to develop web tools powered by AI and visualization
- wrote up manuscripts for publication
- prepared video and textual tutorials on how to use the to-be-developed web app tools

University of New Mexico, GeoAIR Lab   *Albuquerque, NM*
Graduate Research Assistant, Dr. Liping Yang   *Fall 2020-Summer 2023*

- Worked on multiple research projects (including one NSF and one NASA project) leveraging geospatial artificial intelligence for image analysis
- Gathered data related to the assigned project and used (advanced) machine learning and data mining technologies to derive insights from gathered data and information using Python and JavaScript

Eastern Michigan University/IGRE *Ypsilanti, MI*
Intern for NSF Grace (GIS Resources and Applications for Career Education) Project   May 2018 - August 2018

- Trained high school students in ArcGIS Online & ArcGIS Pro
- Oversaw high school students by email in GIS training and liaised between EMU's IGRE center & high school site contact
- Granted licenses to high school students and geomentors via the Grace database
- Maintain and develop Grace project's official website

Eastern Michigan University, Institute of Geospatial Research and Education *Ypsilanti, MI*
Graduate Research Assistant, Dr. Yichun Xie *Fall 2017- Winter 2019*

- Analyze socioeconomic data and environmental data using R, SPSS, and Microsoft Excel
- Mapping using ArcMap, ArcGIS Online, and ArcGIS Pro; Image processing using ArcGIS

Inner Mongolia Grassland Survey and Planning Institute *Xilinhot, China*
Field Work Assistant *Summer, 2017 & Summer, 2016*
- Assisted in plant investigation by quadrat method
- Participated in UAV spectrometer experiment (Application of hyperspectral data in grassland investigation and ecological monitoring)

PEER REVIEWED PUBLICATIONS

1.Stuhlmacher, M., Woods, J., Yang, L., & **Sarigai, S.** (2024). How Does the Composition and Configuration of Green Space Influence Urban Noise?: A Systematic Literature Review. Current Landscape Ecology Reports, 1-15.

2. **Sarigai S**, Liping Yang, Katie Slack, K. Maria D. Lane, Michaela Buenemann, Qiusheng Wu, Gordon Woodhull, Joshua Driscol (2024) idwMapper: An interactive and data-driven web mapping framework for visualizing and sensing high-dimensional geospatial (big) data. Transactions in GIS, under revision.

3. Yang, L., Driscol, J., **Sarigai, S.**, Wu, Q., Chen, H., & Lippitt, C. D. (2022). Google earth engine and artificial intelligence (ai): a comprehensive review. Remote Sensing, 14(14), 3253.

4. Yang, L., Driscol, J., **Sarigai, S**., Wu, Q., Lippitt, C. D., & Morgan, M. (2022). Towards Synoptic Water Monitoring Systems: A Review of AI Methods for Automating Water Body Detection and Water Quality Monitoring Using Remote Sensing. Sensors, 22(6), 2416.

5. **Sarigai, S**., Yang, J., Zhou, A., Han, L., Li, Y., & Xie, Y. (2021). Monitoring urban black-odorous water by using hyperspectral data and machine learning. Environmental Pollution, 269, 116166.

RESEARCH GRANTS

The University Consortium for Geographic Information Science UCGIS
Co-PI *July 15, 2022 – February 15, 2023*
Liping Yang (PI), Sarigai Sarigai (Co-PI), Carolyn Merry Mini-Grant project (part of the TRELIS program), iTRELISmap: an interactive web app for connecting and tracking TRELISers

PRESENTATIONS

American Association of Geographers, 2022 Annual Meeting *Denver, CO*
Presenter *April 5, 2022*
Sarigai Sarigai. An Interactive Web-mapping Framework for Visualizing Geospatial Big Data

American Association of Geographers, 2019 Annual Meeting *Washington, DC*
Presenter *April 5, 2019*
Sarigai Sarigai, Ji Yang, Alicia Zhou, Liusheng Han, Yong Li, Yichun Xie. Monitoring urban black-odorous water by using hyperspectral data and machine learning

SKILLS

Language
Mongolian (Native, proficient in writing in both traditional Mongolian script and Cyrillic Mongolian Alphabet); Chinese (Native); English (Fluent in speaking; proficient in writing); Korean (Elementary proficiency)

Technical Skills

- Skilled in Google Earth Engine, ERDAS Imagine, ENVI, TerrSet
- Skilled in Machine Learning
- Coding skills in Python, JavaScript, HTML/CSS, R; Proficient in developing Web mapping applications
- Skilled in Microsoft Excel, Microsoft Word, Microsoft PowerPoint

AWARDS

The University of New Mexico March 2024
The Graduate Scholarship Fund (GSF) $900

Department of Geography & Environmental Studies, University of New Mexico *March 10, 2022*
Snead Scholarship Award *$500*

Department of Geography & Geology, Eastern Michigan University
Outstanding Geographic Information Systems Graduate Student *April 29, 2020*
Certificate of Academic Honors *April 29, 2020*

TRAINING

Michigan Sustainability Cases, Galaxy Sustainability Learning Exchange *2018, Ann Arbor, Michigan*

- Trained on various kinds of skills needed for a case study
- Worked with researchers from different backgrounds on sustainability case studies
- Worked on the case study of "The degradation of Hulun Lake, Inner Mongolia, China"

Heilongjiang University
Senior's Intern program *2016, Hubei, China*

- Trained at the center of the South-North Water Transfer Project located in Handan, China
- Trained at the developing center of Gezhou Dam in Hubei, China
- Trained at the Three Gorges Dam in Hubei, China

Engineering Geology Practice *2014, Beidaihe, China*

- Strengthened academic knowledge and integrated theory and practice by collecting in situ data and field internship.

LEADERSHIP ACTIVITIES

2019 ArcGIS Online Competition for US HS+MS Students *Ypsilanti, Michigan*
Co-leader *January 2019 - June 2019*

- Communicated with geo-mentors and teachers
- Evaluated and judged students' work