

SIHAN REN

(+1) 608-949-2205
sren33@wisc.edu
510 W Washington Ave, Apt 611,
Madison, WI, 53703

EDUCATION

Cartography & Geographic Information Systems B.S.
Computer Sciences B.S. | May 2023
University of Wisconsin-Madison • Madison, WI

Courses: Building User Interfaces, Computer Graphics, Intro to Geocomputing, Graphic design in Cartography, Intro-Combinatorics, Programming III(java), Intro to Algorithms, GIS Applications, Interactive GeoVisualization

WORK EXPERIENCE

GIS developer | State Cartographer's Office | Feb 2022 - Present | Madison, WI

- Published the 2022 Edition map atlas book of 8 regions and 20 specific cities for Wisconsin Department of Corrections that includes the clients' density, the field office locations, and the residential facilities.
- Updated the Wisconsin LiDAR web map through a viewed table by Arcade expressions to filter the popup window and link to the Geodata@Wisconsin by year and county name. Classified the choropleth map by the latest data acquisition year and added the ArcGIS Online map to instant apps to limit the zoom range.
- Designed a python tool to sort the uncategorized aerial photo records in Wisconsin into folders by county names and years.

Robinson Map Library Staff | UW-Madison Department of Geography | Sep 2021 - May 2022 | Madison, WI

- Updated the metadata for 16 Wisconsin coastal layers for the GeoData@Wisconsin website.
- Updated metadata for the new 2022 geography data layers for 72 counties in Wisconsin to the GeoData website.
- Edited the 226 Lidar tilesets of Wisconsin county data in JSON format and tested them on the GeoData website.

Pre-Calculus Student Assistant | UW-Madison Department of Mathematics | Sep 2021 - Dec 2021 | Madison, WI

- Tutored 15 students in Math 112 class in small groups to assist in worksheet completion, providing supplemental support in learning concepts presented by professors.
- Hold 3 lab hours outside the class time to help with their homework and prepare for the exams.

RESEARCH & PROJECTS

Anti-Asian Crime Map | Apr 2022 - May 2022

- Collected data from the NYPD website and transformed it into Geojson and CSV files.
- Coded using leaflet and d3 library in Javascript to build the choropleth map that contains the Asian hate crime rate from 2010 to 2021 sorted by crime types by clicking the buttons and slides with a line chart coordinated visualization and a dot map to show the crime news.
- Made the video of the background of the interactive map to emphasize the seriousness of the racial hate crime.

Public Land Access Analysis | Jan 2021 - May 2021

- Collected data on official websites from official websites and joined the tables into the shapefiles.
- Used closest facility analysis tool and network analysis tool in ArcGIS Pro by analyzing the distance from each metropolitan area to each public land and made the maps to show the level of accessibility.

Historical Aerial Photo Index Research | Oct 2021 - Dec 2021

- Used ArcMap to georeference the historical aerial photo index maps in Wisconsin and write the summary report of the progress and meeting contents every week.
- Wrote the program using the Python OpenCV HoughCircles function to detect the circles drawn manually in the map to generate images highlighted with those circles and discussed possible solutions to optimize the results.

AWARDS

Barbara Bartz Petchenik Memorial Award (Undergraduate level) | UW-Madison | May 2021 | Madison, WI

- Designed a map of the homeless impact during the COVID-19 pandemic in California through two representative dates to appeal to people to care more about the social issues.

SKILLS

Computer Sciences: Html/ CSS/ JavaScript, Computer Graphics, React, React Native, Dialogflow, Java, Python, SQL

Cart & GIS: ArcGIS Pro, ArcMap, ArcGIS StoryMap, ArcGIS Online, Mapbox, Adobe Illustrator, GDAL Raster Processing, OGR Vector processing, ArcPy, leaflet, D3