

Abigail Gleason

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Please visit my portfolio at <https://abigail770.github.io/portfolio/> to view some of my work.

EDUCATION

University of Wisconsin – Madison

M.S. GIS and Web Map Programming, May 2021

B.A., Geography, December 2016

Certificate in Chinese Professional Communications, December 2016

Nankai University, Tianjin, China

May – August 2014

Study Abroad intensive language program through UW-Madison International Academic Programs.

Earned 12 credits in Mandarin Chinese and traveled independently in China on breaks and weekends.

Academic Honors & Awards:

- Phi Beta Kappa Honor Society
- Dean's List
- Study Abroad Scholar

Technical Skills:

- Software applications including ArcGIS (ArcMap, ArcPro and AGOL), QGIS, Adobe Illustrator and Photoshop, and Microsoft Excel.
- Programming languages and libraries including JavaScript (Vue, Angular, Leaflet, Carto.JS, jQuery, D3), Python, HTML5, CSS, and Carto.CSS. Some experience in Java and PHP.
- Relational databases including PostgreSQL, Microsoft Access, and Carto.
- GitHub and code versioning workflows.

WORK HISTORY

U.S. Geological Survey, Web Informatics and Mapping (WIM), Madison, WI

June 2021 – Present

Software Developer - Student Contractor

- Use Leaflet and the Vue web framework to build the Real-Time Flood Impact Map, a prototype application displaying reference point thresholds for flooding at streamgage locations across the country.
- Assist in building a new version of an internal Short-Term Network (STN) web application using the Angular web framework and Esri Leaflet.
- Create an interactive Flood Inundation Map specific to a city in Missouri using ArcGIS desktop to prepare the data, ArcGIS services to host the layer, and Leaflet and Vue for front-end display.
- Create hydrographs using historic, current and forecasted data for streamgage locations using Plotly (Real-Time Flood Impact Map) and Highcharts (STN).
- Assist in rebuilding the current Water Quality Portal (WQP) web application by converting the application from jQuery to Vue, and adding maps, form fields, and styling.
- Implement unit testing using Jasmine and Karma for both Angular (STN) and Vue (WQP).
- Attend regular meetings with cooperators. Determine necessary application changes in response to stakeholder feedback and plan for future tasks.
- Communicate with project team members and lead developer about project progress.

- Use GitHub and Visual Studio Code workflows for code versioning. Create GitHub issues and add to project boards as needed for managing project tasks and application bugs.
- Adapt quickly to new projects and acquire new skillsets, including learning unit testing, JavaScript frameworks, and new JavaScript libraries.

State Cartographer's Office (SCO), Madison, WI

January 2020 – May 2021

GIS Developer

- Utilized JavaScript, CSS, HTML, and various JavaScript libraries (including Leaflet, jQuery and Carto) to update, revise and create SCO web map applications.
- Developed a web map application to visualize COVID-19 model data for UW Professor Song Gao using D3.js.
- Implemented mobile responsive techniques in SCO web applications.
- Created various python scripts, including a script to create a point shapefile for aerial imagery available in Wisconsin using the USGS Earth Explorer API.
- Updated and revitalized a web map application displaying Wisconsin cities, towns, villages, and counties and playing audio files with place name pronunciations on feature click.
- Utilized ArcMap and SQL to process county parcel data and ensure county parcel submissions meet the state's Searchable Format requirement.
- Maintained and organized SCO's Carto datasets.
- Assisted in updating SCO's Wordpress website from version 4 to 5 and troubleshooting theme, plugin and other update issues.
- Utilized GitHub and Slack to communicate with project team members.

Wisconsin Emergency Management, Madison, WI

July 2020 – May 2021

GIS Intern

- Created static maps using ArcMap and ArcPro for the Hazard Mitigation team as well as for the 2021 State Hazard Mitigation Plan. Projects included creating a map to track county/tribal mitigation plan statuses in the state, a wind zone map displaying tornado safe room locations in Wisconsin, county land cover maps, and various other maps used in documents and presentations.
- Employed statistical analysis to update a Loss Avoidance Study conducted in Gays Mills, WI of flooding mitigation projects. Created modeled floodplain maps using ArcHydro tools.
- Created an ESRI StoryMap about mitigation efforts in Gays Mills, WI.
- Created ArcOnline Web Maps and Web Apps, including a map displaying parcels located in 100- or 500-year flood zones.
- Presented at Wisconsin's Silver Jackets Mitigation meeting and FEMA Region V conference.

Mandli Communications, Fitchburg, WI

January 2017 – December 2019

Geospatial Technician

- Performed data quality checks on photolog, LiDAR, LCMS and GPS data.
- Performed coverage checks on various projects using Google Earth and QGIS.
- Post-processed GPS data for both Atlans and Applanix.
- Validation analysis
- Edited project shapefiles in QGIS.
- Managed crews in the field for various state projects
- Managed, organized and tracked data collection.
- Utilized the Collection Department's JIRA ticket system to communicate within and across departments.

Field System Relief (periodic)

- Collected LiDAR, pavement, and photolog data in Hawaii, Tennessee, Oklahoma, and various other states using Mandli data collection vehicles and systems built in house.
- Operated proprietary collection software and planned routes designated in KML files.
- Drove collection vehicles and performed daily system checks and maintenance as needed.
- Performed weekly validations at designated sites.

Data Technician

- Evaluate and edit LiDAR and photolog data using proprietary software.
- Identify the size, location, and properties of mowable areas, signs, lines, pavement distress, and other assets.
- Train and assist other processors in learning new project rules.
- Perform quality checks on completed work and assist the Data Specialist in performing monthly predelivery checks. Merge shapefiles and perform checks in ArcMap to create final deliverable product.
- Ensure quality and efficiency in the delivery of data to Departments of Transportation.
- Use Excel Online, Sequel Pro, proprietary and other software to track and manage data reduction.

University of Wisconsin Arboretum, Madison, WI

May 2016 – December 2016

Assistant Ranger

- Act as ecosystem steward, maintain trails, provide security, patrol trails and grounds.
- Interact with Arboretum visitors: answer questions, enforce rules, attend to the reception desk, ensure visitor safety.
- Operate Arboretum vehicles and machinery, including brush saws, string trimmers, Kubota, and Gator.

VOLUNTEER EXPERIENCES

Dane County Humane Society

January 2018 – Present

- Feline care volunteer

Ice Age Trail Alliance

2009 – Present

Occasional work-day volunteer

- Work with Dane County Chapter volunteers to restore oak savanna and prairie ecosystems. Work includes clearing invasive species and unwanted trees and undergrowth, applying herbicides, and planting seeds in restoration areas.