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

Technical Skills:

- Software applications including ArcGIS (ArcMap, ArcPro, AGOL, ArcGIS Enterprise), QGIS, Adobe Illustrator and Photoshop, and Excel.
- Programming languages and libraries including JavaScript (Angular, Vue, Esri JS API, Leaflet, Carto.JS, jQuery, D3, Node.js), Python, HTML5, CSS.
- Database management including Postgres, SQL Server, MongoDB and Carto.
- Code versioning workflows (Git).

Presentations:

- Minnesota GIS/LIS Conference (October 2023 – North Point Geographic Solutions)
  - Automating GIS workflows using Make (formerly Integromat).
- FEMA Region V Conference (Spring 2021 – Wisconsin Emergency Management)
  - Loss Avoidance Study
- Wisconsin's Silver Jackets Mitigation meeting (Spring 2021 – Wisconsin Emergency Management)
  - Loss Avoidance Study

WORK HISTORY

North Point Geographic Solutions, Duluth, MN (remote)
July 2022 – present
GIS Specialist/Developer

- Support clients in creating, publishing, and maintaining geospatial data using ArcPro, ArcGIS Online, Enterprise and ArcGIS Server.
- Create and maintain python geoprocessing tools and scripts.
- Utilize Enterprise geodatabases in SQL Server and Postgres to manage spatial and tabular data.
- Create, maintain and deploy custom web applications using the ArcGIS Maps SDK for JavaScript, primarily with the Angular web framework.
- Develop and deploy custom widgets using Esri's Developer's Edition of Experience Builder (React).
- Update, maintain and deploy an API to transform census data using JavaScript and MongoDB.
- Create built-in Esri applications such as Dashboard, Experience Builder and StoryMaps.
- Deployed Esri's Address Data Management Solution.
- Document and track project progress following an Agile methodology and through daily stand-ups.
- Create and present trainings on various topics, including ArcGIS Online, ArcPro, and client-specific workflows and applications.
- Communicate and demonstrate project progress to county, state, private-sector and non-profit clients. Work with clients and managers to assist in identifying project scope and providing estimates of hours/LOE.

U.S. Geological Survey, Web Informatics and Mapping (WIM), Madison, WI (remote)
June 2021 – July 2022

Software Developer (Student Contractor)

- Used JavaScript frameworks (Angular, Vue) and libraries (Leaflet, Esri Leaflet, jQuery, Plotly, Highcharts) to build custom web map applications. Used GitHub for code versioning.
- Built the Real-Time Flood Impact Map, a prototype application displaying reference point thresholds for flooding at streamgage locations across the country, using Vue and Leaflet.
- Assisted in rebuilding an internal Short-Term Network (STN) web application using Angular and Esri Leaflet.
- Created an interactive Flood Inundation Map specific to a city in Missouri using ArcGIS to prepare the data and host the layer, and Leaflet and Vue for front-end display.
- Created hydrographs using historic, current and forecasted streamgage data using Plotly and Highcharts.
- Assisted 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.
- Implemented unit testing using Jasmine and Karma for both Angular (STN) and Vue (WQP).
- Attended regular meetings with cooperators and made changes in response to stakeholder feedback and plan for future tasks.

State Cartographer's Office (SCO), Madison, WI (partially remote)
January 2020 – May 2021
GIS Student Developer

- Utilized JavaScript and various libraries (including Leaflet, jQuery and Carto) to update and create SCO web map applications. Used GitHub for version control and issue tracking.
- Developed a web map application to visualize COVID-19 model data for a UW Professor 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 to process county parcel data and ensure county parcel submissions meet the state's Searchable Format requirement.

Wisconsin Emergency Management – Hazard Mitigation, Madison, WI (remote)
July 2020 – May 2021
GIS Analyst Intern

- Created static maps using ArcMap and ArcPro, including a map to track county/tribal mitigation plan statuses in the state, a wind zone map displaying tornado saferoom locations in Wisconsin, and county land cover maps.
- Used 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 ArcGIS Online Web Maps and Apps, including a map displaying parcels located in 100- or 500-year flood zones.

Mandli Communications, Fitchburg, WI
January 2017 – December 2019
Geospatial Technician

- Performed data quality checks on photolog, LiDAR and LCMS data. Post-processed GPS data and edited project shapefiles using QGIS.
- Managed survey crews in the field for various state projects.

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.

Data Technician

- Evaluated, edited and performed quality checks on LiDAR and photolog data on DOT projects using proprietary software and ArcMap.