

Alex Zarley

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Portfolio: cartoaz.github.io

Education

2018 - 2021, **University of Wisconsin-Madison**
MS, GIS and Web Map Programming

2015 - 2016, **University of Wisconsin-Madison**
Graduate GIS Certificate

2006 - 2010, **University of Wisconsin-Madison**
BA, Classics with Honors

BA, Classical Humanities with Honors
Certificate, Archaeology

Employment

Portland General Electric, Portland, OR / Remote in Durham, NC

GIS Developer/Analyst

Nov. 2018 - Present

Manage and interact with GIS data in Oracle, MS SQL Server, and PostgreSQL database environments and Snowflake Data Lake. Database administrator for MS SQL Server GIS replica database. Stand up and support public-facing GIS products and provide GIS technical support for Emergency Management Team during major outage events. Create Python scripts and Python script tools to automate geoprocessing tasks, and provide reports and GIS data for internal and external regulatory and reporting purposes. Use ArcGIS for Python API to interact with and automate data management and reporting tasks for ArcGIS Online Web Applications and Dashboards. Automate creation of and updates to Excel Workbooks, CSVs, PDFs, and other files with Python.

GIS Specialist III

Mar. 2018 - Oct. 2018

Support multiple lines of business within PGE with knowledge of ESRI ArcGIS 10.6, Python 2.7, Schneider ArcFM, and SQL. Create Python scripts, tools, and add-ins to automate and expedite mapping and geoprocessing tasks. Develop and administer department cartographic standards. Design and create spatial maps and products. Perform geo-data quality control tasks. Optimize approaches and procedures for data management, workflow support, and product/service delivery with focus on cost savings and resource allocation. Review others' edits to enterprise geodatabase for major mapping projects to ensure they meet company data standards.

MODIS IT contracting at Portland General Electric, Portland, OR

GIS Technician III / As-built Poster

Oct. 2017 - Mar. 2018

Support implementation of electrical design and utility construction work via knowledge of ArcFM and the completion of as-building, service, and non-design processes. Perform quality assurance/control checks in the ArcGIS Enterprise geodatabase. Post as-built designs and sessions in the enterprise geodatabase. Correct spatial and attribute errors in geometric and logical networks. Correct errors that arise from version reconcile processes. Develop training materials and videos. Apply GIS Cartographic Standards to maps and products.

GIS Technician II / As-built Editor

Oct. 2016 - Oct. 2017

Interpret engineering sketches and construction work orders to accurately map location and attributes of electrical infrastructure using ArcGIS 10.2 and ArcFM. Perform mapping activities associated with field corrections, fault mapping, outages, damage, corrective maintenance, and inspections. Perform research and investigations to support mapping and analysis activities. Support enterprise data integrity via manual and automated GIS editing and analysis tasks. Use aerial imagery to correct location of system-generated service wires and meters. Finalize data in versions in preparation for posting in the enterprise geodatabase.

UW-Madison School of Medicine & Public Health, Madison, WI

Associate Cartographer

Sep. 2016 - Sep. 2017

Create static maps with ArcGIS 10.3 and Adobe Illustrator CC for publication in manuscript on phylogeography of *Mycobacterium tuberculosis*. Develop an interactive web map for publication with the manuscript using JavaScript, HTML, CSS, and D3. This map includes functionality to pan, zoom, filter on several variables, reexpress multiple variables, and add different overlays.

GIS Analyst

Aug. 2015 - Aug. 2016

Use ArcGIS 10.3 and Python 2.7 to perform network, proximity, and dasymetric analysis for project investigating spread of *M. tuberculosis* along ancient trade routes. Construct network of ancient trade routes focused on maritime and overland silk routes. Main analysis involved creating distance matrix for shortest distances between isolates along network of ancient trade routes for each of 554 isolate locations.

Skills

- Python 2/3 – 6 years
- Pandas/Geopandas – 3 years
- Arcpy/ArcGIS API for Python – 4 years
- ArcGIS Online/Portal – 4 years
- Javascript – 3 years
- MS SQL Server – 4 years
- Oracle – 4 years
- PostgreSQL – 2 years
- ArcGIS Desktop – 6 years
- ArcGIS Pro – 3 years
- D3 – 2 years
- Java – 1 year
- Leaflet – 2 years
- jQuery – 2 years
- Adobe Illustrator – 4 years
- Adobe Photoshop – 1 year
- HTML – 2 years
- CSS – 2 years

Publications

O'Neill M., Shockey, A., **Zarley, A.**, Aylward, W., Eldholm, V., Kitchen, A. and Pepperell, C. "Lineage specific histories of *Mycobacterium tuberculosis* dispersal in Africa and Eurasia," *Molecular Ecology*, vol. 28, no. 3, July 2019, pp. 3241-3256.

Awards

First Prize, Graduate Student Division, Barbara Petchenik Memorial Award in Cartography, 2016

Awarded to my map "The Silk Road in the 1st Century CE" for excellence in cartography and map design, including artistic and technical skill. This map is available in my portfolio.