

ABIGAIL LARA BURNS

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Passionate and thorough geospatial professional dedicated to informing and empowering decision-making

EDUCATION

Master of Science in Social Data Analytics and Research

The University of Texas at Dallas – School of Economic, Political and Policy Sciences

Bachelor of Science in Geospatial Information Science

The University of Texas at Dallas – School of Economic, Political and Policy Sciences

RELEVANT COURSEWORK

[Applied Geographic Information Systems](#)

[Health and Environmental GIS](#)

[Information Management](#)

[Advanced GIS](#)

TECHNICAL SKILLS

Languages:

Python, R, SQL, Arcade, HTML

Applications and Software:

Esri ArcGIS Pro, ArcGIS Enterprise, ArcGIS Online, ArcGIS Server, ERDAS Imagine, GeoDa, Microsoft Excel, Microsoft SQL Server, SQLite

Functions:

Cartography, Spatial and Geostatistical Analysis, Spatial ETL, Data Design, Database Management

PROJECTS

[San Francisco Land Subsidence](#) – ArcGIS Pro, GPS, surface interpolation, volume, 3D analysis

[DFIRM DB Toolbox](#) – arcpy, pandas, for loops, dictionaries, validation, geoprocessing

WORK EXPERIENCE

GIS Specialist II – AECOM – Dallas, TX

Jan 2024 – Present

- Use 2D hydraulic modeling to perform floodplain analysis as part of the Base Level Engineering approach.
- Provide flood risk and other spatial datasets to FEMA for unstudied or previously 1D-modeled communities.
- Document spatial analysis processes and best practices.
- Develop custom scripting tools for raster analysis, data validation, and dataset creation.
- Automated and improved functionality of spatial data processes.

GIS Analyst – Town of Prosper Municipal Government – Prosper, TX

Aug 2022 – Nov 2023

- Reviewed COGO for, digitized, and attributed land developments from submittal to construction stages.
- Created and converted features from As Built and CAD drawings for underground utility pipeline assets.
- Designed domains and attribution for utility infrastructure, planning, and public safety datasets.
- Collected data for, maintained, symbolized, and published services and [apps](#) for internal and public use.
- Configured and implemented the [Open Data website](#) for public sharing of Town-maintained GIS data.
- Administered SQL Server instances, users, and database replication
- Improved accuracy, validated topologies, and enhanced visualization of spatial datasets.
- Effectively deployed and supported GIS capabilities for city departments and residents.

Contract Employee – NewGen Strategies & Solutions – Richardson, TX

Feb 2022 – May 2022

- Performed accurate [supervised object-based image classification](#) and analysis.
- Tabulated impervious area to calculate Equivalent Residential Units.
- Created an actionable table of parcels for implementing weighted stormwater runoff charges.

GIS Coordinator PT – Collin County Government – McKinney, TX

Mar 2021 – Aug 2022

- Reverse-geocoded to assign 9-1-1 rural addresses and replicated and synchronized this data with NCTCOG.
- Automated spatial ETL of city transportation data using Python scripting and ModelBuilder.
- Performed spatial analysis for visualization and promotion of [widely distributed polling centers](#).
- Efficiently and accurately addressed burgeoning property developments.