

Dave Magill • GIS Specialist

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GIS specialist trained in ESRI software suite also experienced using open source GIS toolsets. 4.0 GPA in all GIS coursework. My development experience informs my automation of geoprocessing workflows. My drive for learning fuels skill building on new projects.

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Skills / Experience

Cartography and presentation

- Created official planning map ([link](#)) for Quarryville Borough, adopted March 2021, using ArcGIS Pro
- Created interactive zoning map ([link](#)) for Quarryville using Mapbox and JavaScript
- Created maps using ArcGIS Online ([link](#))
- Updated feature attributes in OpenStreetMap
- Used manual digitizing, georeferencing and supervised/unsupervised classification to create feature data
- Created feature datasets using coordinate data or geocoded address data loaded from spreadsheets
- Created effective symbology for use cases including overlapping features and alternate depiction in monochrome as needed, organizing ArcGIS Pro layers and layouts to facilitate multiple symbology versions
- Created effective feature labels, selecting fonts color and subtle halos as needed for readability over aerial imagery and other basemaps
- Researched and created ESRI Story Maps related to political redistricting, natural hazards, and remote sensing
- Created map book of state forests, parks, and game lands for all PA counties

Data management and transformation

- Created/documented workflow to aggregate non-attributed shapefiles for water network mains into single feature class with attributes and metadata ([link](#))
- Created ArcGIS Online layers for data collection via Collector
- Sourced data, via portals/aggregators and directly, from organizations such as USGS, NOAA, US Census Bureau, USDA, Natural Earth/NACIS, PennDOT, other state and county agencies, and regional EMS agencies
- Automated county lookup and download of road centerlines from Census Bureau website
- Converted data formats as needed (eg: .pdf > .tif, .shp > .kml, raster > vector) using ESRI and open source tools
- Created Python tools to allow rapid command line inspection and QA / QC of feature datasets

Field data collection

- Used Collector for ArcGIS on Android and iOS to map locations and networks including utility assets and recreational trails
- Used Survey123 to collect data on housing conditions in Mahanoy City
- Collected accessibility data on transit authority bus network for transportation planning department using TerraSync software on Trimble GPS units
- Documented procedures and safety guidelines for installation of traffic counting equipment ([link](#))

Geospatial analysis

- Facility with ModelBuilder and Python scripting (via command line, PyCharm, and Jupyter notebooks)
- Varied spatial analysis using ArcMap and ArcGIS Pro, including image processing, land cover classification, path optimization with multiple variables
- Used ModelBuilder and Python scripts to automate land parcel analysis ([link](#))
- For work on state forest environmental impact timeline, created ArcMap extension allowing one-button access to time stamped historic imagery archive for any chosen point (using Python)
- Developed/improved and documented workflows for analysis and editing tasks eg: generating clean polygon features from 'noisy' map images

General I.T.

- Installed and configured ArcMap, ArcGIS Pro, QGIS, GRASS, Google Earth on local desktops
- Facility with Microsoft Word, Excel, Powerpoint / Office 365, batch scripts, Powershell
- Created web sites using object oriented Python code, JavaScript/ES6, HTML and CSS ([link](#))
- Facility with Git for version control, wrote Python scripts to standardize Git workflow
- Database management/processing using SQL (mySQL)
- Experience with Linux distributions including CentOS, Ubuntu
- Recorded and edited videos and animations demonstrating GIS workflows
- Led week long workshop presenting technical content to I.T. staff

Employment

Field Technician, Evari GIS Consulting, 2022

Temporary position with Evari to fulfill contract with Keystone Lighting Solutions for Delaware Valley Regional Planning Commission. As part of four man team, conducted audit of 1700+ streetlights in seven townships over three week period. Used rangefinder and Android tablet running ESRI/ArcGIS Collector to record dimensions and other attributes of streetlights, also collecting imagery. Used Voxer communications platform to coordinate with other team members while working independently. Stayed aware and followed safety protocols while collecting imagery on and off roadways.

Cartographic Intern, Quarryville Borough, 2020 - 2021

Did all cartography for 'Official Map' of Quarryville, documenting potential street improvements, water utility network extensions, and land and easement acquisitions. Maps created using ArcGIS Pro. Official map facilitated grant process for borough. Created interactive zoning map with clickable zones linked to borough zoning code. Zoning map created using Mapbox and JavaScript/ES6. Updated borough WordPress website.

Summer Intern, Lancaster County Planning Commission, 2018

Installed traffic counters for volume and vehicle class measurement throughout Lancaster County. Assessed condition and took measurements of bus stops/shelters and adjoining sidewalks. Recorded this information using Trimble GPS units. Recorded vehicle turn counts for intersections in Lititz Borough.

Education

Harrisburg Area Community College (Lancaster)
A.S. Geospatial Technology, Graduated 2021
Dean's list