

# Elijah Robison

## GIS Systems Engineer

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### Summary Statement

Experienced software developer specialized in custom GIS solutions and browser-based dashboards for spatial integration with distributed enterprise systems. Having worked with several open technologies in the FOSS4G space, as well as ArcObjects and ArcPy, I benefit from a diverse background and adapt well to new environments. I am proficient at automating workflows, admining systems and databases, and I enjoy creating expressive, interactive, data-driven GIS solutions, often eliminating the need for traditional desktop installations that rely on local files. Moving forward, I am interested in working with real-time data using push architectures, and I am excited about the prospect of applying my talents to spatial questions affecting transportation industries, logistics, and possibly weather-sensitive enterprises.

### Career Highlights

- Eleven years experience using GIS software and concepts in analytical roles
  - Ten years experience programming for GIS, representing a variety of industries and project requirements
  - First to publish a [solution to Google's Polyline Encoding Algorithm for PostGRESql/PostGIS](#)
  - Responsible for the [\\_useDirForEachRow](#) option in `gdal_retile.py` (GDAL Python utility, available in GDAL 1.8+), resolving a scaling bottleneck affecting image tiling of source imagery exceeding six-inch pixel resolution
  - Primary Author of [Learning Flex 4](#) (ISBN-13 978-0596805630)
  - Remote Sensing lab instructor at Missouri State University (2007-9) and Intro to GIS instructor at North Arkansas College (2011)
  - Contributor at <http://gis.stackexchange.com> and occasional blogger at <http://www.cartometric.com/blog>
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### Senior GIS Analyst / Lead GIS Developer

July 2013 – present

Richland County Government, Columbia SC

- Developed a configurable and extensible Internet mapping architecture that anchors our public-facing, browser-based applications
- Created an abstracted search API served from a REST endpoint to provide interactive search suggestions across all applications
- Implemented ESRI ArcServer 10.5.1 with proprietary Web Adaptor and Portal value-adds on a Cent OS 7 and PostGRESql/PostGIS architecture, side-stepping the typical, costly Microsoft Windows and MS SQL Server architecture
- Responsible for writing and maintaining a variety of ETL automations using ogr2ogr, Python, Bash, pgSQL, pgLoader, shp2pgsql, ffmpeg, etc.
- Designed simple solution to monitor system responsiveness and push alerts to SMS through SMTP
- Admin several OS/mapping platforms including Ubuntu, Cent OS, Windows; DBA duties for PostGRESql; TileCache, Geoserver, Mapnik, iptables, etc.
- Author and maintainer of API documentation, sysadmin cheat sheets, and platform configuration recipes

### GIS Analyst / Software Developer

August 2009 – July 2013

VillaGIS Inc., Hollister, MO/Kirbyville, MO

- Interviewed stakeholders and created WebGIS solutions for counties, utilities, and similar organizations (HyperGIS, Flex, C#.Net, MySQL)
- Authored custom ArcGIS tools and extensions for ESRI ArcMap using ArcObjects and C#.Net
- Junior programmer on suite of enterprise applications for county governments (Adobe Flex/AIR, C#.Net, MySQL)
- Provided 3rd-party vendor integration using a variety of interconnection approaches, including ETL, FTP, and custom web endpoints
- Handled GIS data conversion from ESRI formats (geodatabase/shapefile) into RDBMS (MySQL, PostGRESql/PostGIS)
- Scheduled and performed software releases and updates for gAMA, our flagship assessment and appraisal application
- Authored several scripts to support software installations, updates, and offsite backups

### Intro to GIS / Cartography Instructor

January 2011 – May 2011

North Arkansas College, Harrison AR

- Taught original lectures covering [Cartography: Thematic Map Design](#) (Dent, Torguson, Hodler)
- Managed computer lab sessions demonstrating applied concepts and map creation using ESRI's ArcMap

Author of [Learning Flex 4](#)

Published November 2010

O'Reilly Media Inc., Sebastopol CA

- Primary author of 22-chapter, 440-page manuscript demonstrating an introduction to programming using Adobe Flex 4 and ActionScript 3
- Available online through [Adobe](#) or through [Amazon](#)

Graduate Assistant / Remote Sensing Lab

August 2007 – August 2009

Missouri State University, Springfield MO

- Developed workflow automation tools for Hydrologic research using ArcObjects and VBA
- Performed imagery classification for mixed projects (i.e. habitat mapping, land use change) including a pre-construction habitat-survey for a proposed wind farm, and mosaicking historic aerial imagery for a sediment deposition analysis of the Big River floodplain (Jefferson County, MO)
- Handled Remote Sensing lab TA duties including lab instruction for Aerial Photography Interpretation and Introduction to Remote Sensing courses

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Platforms:	Cent OS, Ubuntu, Windows, Apache, IIS, Tomcat, PHP, PostGRESql/PostGIS, MySQL, iptables, TileCache, Geoserver, ArcGIS Server
Software:	GDAL/OGR, Mapnik, ArcGIS, ArcMap, Q-GIS, GIMP, Photoshop, M.S. Office, OpenOffice, IrfanView, Nuendo, Soundforge, Audacity, etc.
Programming:	JavaScript, JQuery, PHP, Python, SQL, LeafletJS, Proj4JS, JSTS, Wicket, Google Maps API, ArcObjects, C#.Net, GPS/NMEA, others
Networking:	IP, domain configuration (A-records) and DNS management, nameserver configuration, basic networking
Debugging:	Linear troubleshooting and debugging (proxy-based inspectors like Fiddler/Charles), IDE-debugging (breakpoints and watchers)
Diagnostics:	Parsing log files (e.g. using cat/grep, vi), tailing log files for runtime error-catching

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Education:

M.S. Geospatial Sciences	Missouri State University, Springfield MO	graduated May, 2012	GPA 3.82
B.A. History / Mass Media	Missouri State University, Springfield MO	graduated May, 2004	GPA 3.18