

Elijah Robison

Senior GIS Developer

615 Skyland Dr.
Columbia, South Carolina 29210
417-766-4735
elrobis@hotmail.com
<http://www.elrobis.com>

Summary Statement

Experienced GIS developer specialized in custom 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 in automating workflows, admining systems and databases, and I enjoy creating interactive, responsive, data-rich GIS solutions, with the potential to eliminate the need for traditional desktop applications. My geospatial career started with the development of an ArcGIS utility to help university researchers calculate flood interval metrics on ungauged streams in rural Missouri. Since university, the dominant portion of my experience has involved developing web mapping solutions for cadastral data for layperson end users. Looking to the future, I am interested in the prospect of moving into a role supporting other industries, for example environmental, transportation, agriculture, and time-sensitive operations.

Career Highlights

- Twelve years professional experience as a GIS developer with considerable exposure to proprietary and open-source technologies
 - 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 high resolution source imagery (i.e. ≤ 6 -inch pixel)
 - 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)
 - Occasional contributor at <http://gis.stackexchange.com> and blogger at <http://www.cartometric.com/blog>
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Senior Analyst / Lead GIS Developer

July 2013 – present

Richland County Government, Columbia SC

- Developed a configurable Internet mapping architecture with an extensible plugin interface that anchors our public-facing applications
- Created an abstracted, centralized search API served from a REST endpoint that provides interactive search suggestions across all applications
- Responsible for writing and maintaining a variety of ETL automations using ogr2ogr, Python, Bash, pgSQL, pgLoader, shp2pgsql, FFmpeg, etc.
- Configure and admin map tiling platforms that utilize a variety of technologies, including Ubuntu, Cent OS, Windows, PostgreSQL/PostGIS; GeoServer, Mapnik, TileStache, Apache, iptables, and crontab scheduling
- Migrated the GIS division's Drupal webpage and legacy web applications to resized cloud server instances
- Developed solutions to examine user engagement and consider how people interact with our application features
- Implemented ESRI ArcServer 10.5.1 with proprietary Web Adaptor and Portal on a Cent OS 7 and PostgreSQL/PostGIS platform, avoiding costly Microsoft Windows and MS SQL Server licensing fees
- Author and maintain API documentation, sysadmin cheat sheets, and platform configuration recipes
- Meet with department heads and key personnel to identify project goals, agree upon timelines, and review progress

Web GIS Coordinator / Software Developer

August 2009 – July 2013

VillaGIS Inc., Hollister, MO/Kirbyville, MO

- Created unique web-based GIS 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)
- Responsible for tiling aerial imagery for integration with web mapping solutions; it was here that I had the inspiration for the `-useDirForEachRow` option in `gdal_retile.py`
- Scheduled and performed software releases and updates for gAMA, our flagship assessment and appraisal application
- Used a Jenkins automation to test database versioning prior to software releases and updates
- Developed 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
- Four appendices provided introductions for configuring a server environment, MySQL and PHP basics, and compiling Flex applications in Linux
- Created most media assets used for publication including screenshots, complete with image markup and processing

Graduate Assistant / Remote Sensing Lab

August 2007 – August 2009

Missouri State University, Springfield MO

- Developed ArcGIS utilities to perform flood discharge estimates for 2- to 500-year inundation events on ungauged streams in rural Missouri using National Flood Frequency (NFF) regression equations published by the U.S. Geological Survey
- Performed image registration and classification for mixed projects (i.e. habitat mapping, land use change) including a pre-construction habitat-survey for a proposed wind farm
- Scanned and mosaicked 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

Major Accounts Support Technician

June 2004 – July 2006

Socket Telecom, Columbia MO

- Resolved connectivity issues for customers at all service levels, including DSL, T1, IDSN, and dial-up
- Performed first and second-tier troubleshooting and network diagnostics within CISCO router interfaces
- Handled low-level circuit provisioning, subdividing DS3/T3 carriers into individual T1 subscriber lines
- Traveled to client premises or interconnection facilities (carrier hotels) as needed to support mixed field operations

Technology Experience

Web Server Platforms:	Ubuntu, Cent OS, Windows, Apache, IIS, Tomcat, PHP, crontab, iptables
Databases:	PostgreSQL/PostGIS, MySQL, MS SQL Server
Map Tiling Server Software:	TileStache, Mapnik, Geoserver, ArcGIS Server
GIS Programming:	PostGIS, LeafletJS, Proj4JS, JSTS, Wicket, WKT, Google Maps API, GDAL/OGR, ArcObjects, SharpMap, GPS/NMEA
Mainstream Programming:	Python, PHP, SQL, JavaScript, JQuery, JSON, Socket client/server, XML, UDP frame translation, C#.Net
Development Software:	NetBeans, Eclipse, Visual Studio, DBEaver, Vim, Notepad++, Geany, Fiddler, Wireshark, Git, Subversion (SVN)
GIS Client Software:	GDAL Python utilities, ogr2ogr, Mapnik, Q-GIS, ArcGIS, ArcMap
Miscellaneous Production Software:	GIMP, Photoshop, M.S. Office, LibreOffice, IrfanView, ImageMagick, Ffmpeg, Nuendo, Reaper, Soundforge, Audacity
Networking:	IP addressing, nameserver assignment, DNS record management, basic networking

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