Elijah Robison
Senior Software Developer

615 Skyland Dr.
Columbia, SC 29210
417-766-4735
elrobis@hotmail.com
http://www.elrobis.com

Career Highlights

- Fourteen years experience as a software developer with a specialty in GIS integration
- 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)
- Primary Author of Learning Flex 4 (ISBN-13 978-0596805630)
- Occasional contributor at http://gis.stackexchange.com and blogger at http://www.elrobis.com/blog

Senior Software Developer – Data Engineering Team
September 2021 – present

Aurora Insight, Inc. Denver CO

- Created an ESRI ArcPro extension to enable loading and visualizing of our Wireless Essentials data product inside the ArcGIS environment
- Developed an interactive, map-based dashboard for exploring RF Interference (notably GNSS) in a Single Page Application
- Wrote the database calls and the REST API to support our Spectrum Utilization application
- Performed ad hoc data ingests for mixed scenarios where we desired to have large, 3rd-party datasets available to analysis within our Postgres database; e.g. H3 hexbins, U.S. Census data, FCC data
- Troubleshot and resolved slow database queries by implementing appropriate indexes and/or revising the querying strategy
- Promoted database-driven application architectures by writing custom database functions to fetch, calculate, aggregate, and occasionally even transform data directly in the data layer
- Developed several ETLs for both in-house and 3rd-party data, all orchestrated by Apache Airflow
- Wrote several knowledge base articles documenting ogr2ogr solutions I used for ETL scenarios

Senior Analyst | Lead GIS Developer
July 2013 – September 2021

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
- Developed a PostgreSQL/PostGIS implementation of Google's Polyline Encoding Algorithm and published it for public use
- Extended MS SQL Server spatial support to include coordinate system translation via a CLR assembly that implements the GDAL C# bindings to perform coordinate system translation of Well Known Binary (WKB) feature inputs
- Responsible for writing and maintaining a variety of ETL automations using ogr2ogr, Python, Bash, pgSQL, pgLoader, shp2pgsql, FFmpeg, etc.
- Configure and admin map tiling solutions spanning several technologies, including Ubuntu, Cent OS, Windows, PostgreSQL/PostGIS; Mapnik, TileStache, GeoServer, Apache, and cron scheduling
- Migrated the GIS division's web presence and legacy web applications to resized cloud server instances
- Developed solutions to log and examine user engagement and analyze how people interact with our applications
- Implemented ESRI ArcServer 10.5.1 with proprietary Web Adaptor and Portal on a Cent OS 7 and PostgreSQL/PostGIS platform, avoiding Microsoft Windows and MS SQL Server licensing fees
- Author and maintainer of 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 data viewers for counties, cities, utilities, and similar organizations (HyperGIS, Flex, C#.Net, MySQL)
- Handled GIS data conversion from ESRI formats (geodatabase/shapefile) into RDBMS (MySQL, PostgreSQL/PostGIS)
- Responsible for tiling aerial imagery for our web mapping solutions; the -useDirForEachRow option in gdal_retile.py came from this work
- Junior programmer on suite of enterprise applications for county governments (Adobe Flex/AIR, C#.Net, MySQL)
- Used Jenkins automations to test database versioning prior to software releases and updates
- Scheduled and performed software releases and updates for gAMA, our Computer Assisted Mass Appraisal software product
- Developed solutions to support software installations, updates, and offsite backups
- Integrated with third-party software using a variety of approaches, including ETL scripts, web endpoints, and FTP/filewatcher pairings
- Authored custom ArcGIS tools and extensions for ESRI ArcMap using ArcObjects and C#.Net

Intro to GIS | Cartography Instructor

January 2011 – May 2011

North Arkansas College, Harrison AR

- Taught original lectures covering <u>Cartography: Thematic Map Design</u> (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 and informative graphics

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; logged interactions in the corporate CRM
- 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

Operating Systems/Web Servers:	Ubuntu, CentOS, Windows, Apache, PHP, Tomcat, IIS, ASP
Systems Administration:	ETL automation, Chronos (i.e. cron), TaskManager, iptables, Bash (i.e. Linux shell)
Databases:	PostgreSQL/PostGIS, MS SQL Server, MySQL
Map Tiling Server Software:	Mapnik, TileStache, Geoserver, ArcGIS Server, ArcGIS Portal
GIS Programming:	PostGIS, GDAL/OGR, LeafletJS, Proj4JS, JSTS, Wicket, WKT, Google Maps API, ArcObjects, SharpMap, GPS/NMEA
Mainstream Programming:	SQL, Python, PHP, JavaScript, JQuery, JSON, C#.Net, MS CRL, Socket client/server, XML, UDP dataframe translation
Development Software:	DBeaver, NetBeans, Eclipse, Visual Studio, Vim, Notepad++, Geany, Fiddler, Wireshark, Git, Subversion (SVN)
GIS Client Software:	GDAL/OGR utilities, ogr2ogr, Mapnik, Q-GIS, ArcGIS, ArcMap
Miscellaneous Software:	GIMP, Photoshop, LibreOffice, MS Office, ImageMagick, Ffmpeg, IrfanView
Networking:	IP addressing, DNS record management(A/CNAME records), 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