

GIS Full Stack Developer - Alan L. Clack

404-394-8423 ■ alan.l.clack@axxinite.com

<https://www.linkedin.com/in/alanlclack> ■ <https://alanlclack.com>

HIGHLIGHTS OF PROFICIENCIES

- GIS Development/Programming
- Web Development
- Analytical Workflow Automation
- GIS Data and Portal Management
- ESRI ArcGIS Desktop / QGIS
- SharePoint Administration
- Production Management
- Quality Control / Assurance
- Training and Instruction

Passionate Geospatial developer with outstanding efficiency and excellent presentational and customer/client relationship skills with 21 years of advanced analysis and data science experience. I am fortunate to have worked in both solo and team-oriented environments as an analyst, team lead, and developer/programmer. I've supported a wide range of complex customer requirements. Experience ranges from creating tools and workflows for standard desktop software or servers, implementing GIS web-portals both on-premises and cloud-based options, standing up front-end interfaces for customer interaction, and to application development involving GIS analytical capabilities. I've been able to adapt to custom requirements to meet specific operational and business needs, often bridging a much-needed gap between dedicated developers, business analysts, non-technical team members, and clients. Trained instructors and students alike in aspects of hardware, software, analysis, and emerging development libraries/frameworks, technologies, and methodologies.

PROFESSIONAL EXPERIENCE

Bureau of Land Management (BLM) – Xentity LLC

Durham, NC (*remote*) – January 2023 to January 2026 (3 years)

GIS Full Stack Developer

- GIS Full Stack Developer for the Bureau of Land Management (BLM) assigned to a government web/application development team. Initial objectives were to overhaul a suite of specialized tools coded in XAML with Geocortex and convert them into a JavaScript environment of the rebranded VertiGIS suite. The in-house talent was no longer around but the entire suite of several dozen tools was successfully refactored and significantly improved to utilize the enhanced JavaScript and ESRI hooks that required more direct coding knowledge but still allowed for non-developers on the team to maintain the tools with the low-code options provided by VertiGIS.
- After overhauling the initial set of tools, more requests came in from various government teams that spanned from forestry services, conservation efforts, and business analytics. These requests were to include additional capabilities Oregon/Washington states wished to modernize. Several dozen tools and plugins that were written in Java, JavaScript, and C# and were converted to newer JavaScript for web-based tools and C# for ArcGIS plugins and addons. Several side projects were updated from older versions of Python to newer Python code that was significantly refactored.
- Trained new and mid-level developers and analysts in DevOps basics to introduce into government development teams. Utilized Azure DevOps and converted file storage systems into proper codebases with versioning and loose implementations utilizing an oriented Git processes.
- A suite of geoprocessing tools were updated to ArcGIS Server and REST API components with many plugins getting offloaded to server architecture that scaled better to the in-house teams needing to utilize them. Rewritten with Python and fully captured documentation in Azure DevOps of update procedures through standard ESRI options.

United States Department of Agriculture (USDA) - TSPi

Fayetteville, NC (*remote*) – January 2022 to January 2023 (*1 year*)

GIS Developer

- GIS Developer for the United States Department of Agriculture – Farm Production and Conservation (USDA-FPAC) working in a SAFe / Agile environment delivering software and data for new applications and maintenance on existing products. Working as part of a software development team to deliver customer solutions across multiple product lanes.
- Areas of work include management, publication, and visualization of country-wide geospatial datasets utilizing the ESRI stack of tools, software, and developer frameworks.
- Develop custom back-end server tools and programming to support data not compatible with the ESRI stack, convert metadata to support federal, open data, and ISO schemas.
- Providing pivotal GIS-based expertise for existing projects and applying industry leading practices to significantly decrease previous workloads and providing product owners and customers with more pertinent information. Acted as a liaison for teams that were interested in pursuing Artificial Intelligence (AI) and Machine Learning (ML) capabilities. Pulling from previous ML experience and a deeper than average understanding of the real capabilities and issues with AI to help higher-ups determine true cost and sustainability as well as where, or if, it was going to be effective.
- Building front-end web-based mapping applications via ESRI ArcGIS Online and cloud-based architecture options via Amazon Web Services (AWS) that utilize in-house published data, REST APIs, and other sources.

NS2 Mission (Formerly Apex Expert Solutions LLC)

Fort Bragg, NC – January 2019 to January 2022 (*3 years*)

GIS Developer

- Continued to lead a specialized team focused on cyber security, geospatial analysis, and development projects while transitioning to a more dedicated remote development role working on SharePoint site administration, application development providing specialized visualization and geospatial analysis, and command-and-control software with web-based mapping components.
- Developer assigned to highly customized solutions and projects with open-ended goals that required collaborative working knowledge of systems being used by end users. Proficient in front-end web-based technologies through a standard HTML, CSS, JavaScript stack. Knowledgeable in powerful command GIS-based libraries such as GRASS/GDAL for analytical and data manipulation. Expanded backend development through NodeJS and desktop application development through Electron and Python scripting. Familiar working with a wide range of additional GIS/mapping related libraries, frameworks, and systems such as: Leaflet, Mapbox/MapboxGL, CesiumJS, OpenLayers, ArcGIS Online ecosystem, Turf.js, GeoServer, PostgreSQL, and MySQL. Software and data was hosted and updated through Amazon Web Services for front-end users and development was administered through an Atlassian software platform with tools like Bitbucket, Jira, and Confluence.
- Regularly attend DevOps and scrum meetings for projects related to command-and-control and analytical/visualization software. Regularly requested to attend other DevOps meetings related to other customer development efforts as a consultant on development hurdles especially related to GIS/web-map libraries and capabilities that would enhance the programs spatial awareness and analysis capabilities.

APEX EXPERT SOLUTIONS LLC.

Fort Belvoir, VA – April 2015 to January 2019 (*4 years, 8 months*)

Geospatial Team Lead

- Advanced the rapidly growing Geospatial Training and Analysis Cell (GTAC) to support the Night Vision Electronic Sensors Directorate (NVESD) CONUS/OCONUS simulation lab, Full Motion Video (FMV), Bi-Static Surveillance System (BSS), and Imagery Analyst teams. Support provided to customers has expanded to mass data management and dissemination, scripted spatial analysis, 3D modelling utilizing GIS technologies that utilized parallel processing to heavily reduce time spent processing ever-growing large datasets, and advanced geospatial visualization techniques using multiple mapping frameworks on projects that involved MapBox, CesiumJS, and ArcGIS Online services.
- Overhauled online collaboration environments to support overseas teams to allow for quick-reaction products and sustainable production efforts. Customers requiring advanced methods of analysis and visualization but are restricted to limited software and hardware configurations are still receiving quality products and analysis due the team's expanded capabilities and expertise. Data services were built on on-premise servers, hosted in cloud environments when applicable, and developed analytical capabilities for applications with mobile tablet options for field service engineers. Advanced support for programs helped expand the company's contracts within the workspace. Decision makers are receiving more reliable data, actionable intelligence in less time, and are provided with customized tools/software due to combined efforts.

APEX EXPERT SOLUTIONS LLC.

Fort Belvoir, VA – December 2014 to April 2015 (*5 months*)

Geospatial Analyst

- Supported the Night Vision Electronic Sensors Directorate (NVESD) simulation lab and other government/military customers in support of sensor-based solutions that provided force protection for the US Army. Training improvements allowed operators to support overseas units with additional support while building up an excellent collaborative environment as reach-back support to enhance the sensor suites.
- Significantly improved established workflows enabling the small team to support more customers with a wider variety of GIS analysis and data. Automation of workflows utilizing Python, command, and open source GIS scripting reduced common workflows by approximately 75% freeing up valuable manpower hours. Customer support consequentially expanded to include "war-gaming" 3D databases for aviation operations and multinational Joint Operations whose data requirements were beyond previous manual capabilities.

ADDITIONAL EXPERIENCE

UNITED STATES MARINE CORPS (USMC) – Active Duty
SOUTHERN PARTNERSHIP STATION — USS Oak Hill, SPS-12
WEAPONS AND TACTICS INSTRUCTION COURSE — MCAS,
Yuma, AZ

Geospatial Intelligence Specialist, 12/2009 to 12/2014
Geospatial Intelligence Specialist, 09/2012 to 12/2012
Instructor Course Support, 02/2013 to 05/2013

EDUCATION & TRAINING

Northern Virginia Community College - Annandale, Virginia
B.S. degree in Computer Science and Engineering – (2015)

National Geospatial-Intelligence Agency College (NGC-E) - Springfield, Virginia
Basic Geospatial Intelligence Specialist Course (BGIS) – (2011)
Intermediate Geospatial Intelligence Specialist Course (IGIS) – (2013)

404-394-8423 ■ alan.l.clack@axxinite.com ■ <https://www.linkedin.com/in/alanlclack> ■ <https://alanlclack.com/>