

# GIS Developer - Alan L. Clack

404-394-8423 ■ [alan.l.clack@gmail.com](mailto:alan.l.clack@gmail.com)

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

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## HIGHLIGHTS OF PROFICIENCIES

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- GIS Development/Programming
- Web Development
- Analytical Workflow Creation
- Custom GIS Automation
- ESRI ArcGIS Suite / QGIS
- GIS Data Management
- GIS Portal Implementation
- SharePoint Administration
- Production Management
- Quality Control / Assurance
- Training and Instruction
- MULTI-INT Systems

**Passionate Geospatial team lead and developer** with 13 years of experience advancing production/analytical groups in both solo and team-oriented environments as a team lead. Supported a wide range of complex customer requirements with a bearing towards analysis to include: terrain analysis, force protection analysis, 3D analysis, and Ground Moving Target Indicator (GMTI) analysis. Combining 7 years of development experience across collaborative teams and environments that adapted to site's unique requests. 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, to application development involving GIS analytical capabilities.

**Outstanding efficiency** of analytical workflows, advancements in production environments, and development of GIS data loading pipelines. Products are produced at a high-rate tempo due to effective organization, well documented workflows, and firm adherence to industry standards. Data and product dissemination were enhanced through use of in-house developed tools and effective usage of cloud/web-based solutions to build cohesive systems between multiple teams and customers across the globe.

**Excellent presentational skills and customer relations** by adapting to custom requirements to meet specific operational needs and intelligence requests. Consulted between development teams and end-user operators by bridging gaps through a strong understanding in both aspects. Trained instructors and students alike in aspects of hardware, software, analysis, and emerging development libraries/frameworks, technologies, and methodologies.

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## PROFESSIONAL EXPERIENCE

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### United States Department of Agriculture (USDA)

Fayetteville, NC (remote) – January 2022 to Present (6 months)

#### 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 provide product owners and customers with more pertinent information.
- Building front-end web-based mapping applications via ESRI ArcGIS Online and cloud-based architecture options via Amazon Web Serviced (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.

## **2D INTELLIGENCE BATTALION**

Camp Lejeune, North Carolina - October 2011 to December 2014 (3 years)

### **Geospatial Intelligence Data Manager**

- Maintained, updated, and organized all geospatial data that is utilized by the Geographic Intelligence Capability in support of military operations, which included worldwide datasets at the command and tactical levels. Maintained an ArcGIS SDE database for replication into Marine Corps Intelligence Activity (MCIA) SDE database. Developed web-mapping capabilities into ASP.NET server portals/applications.
- Trained and advised Marines on proper use of data for analytical purposes as well as proper creation and storage of newly created data. Developed curriculum-based classes and tutorials that covered varying levels of geospatial analysis. Instructed Marines in garrison and on deployment on the proper use and maintenance of equipment to include computer systems, servers, plotters, and other hardware.

## **2<sup>ND</sup> INTELLIGENCE BATTALION**

Camp Lejeune, North Carolina - November 2010 to October 2011 (1 year)

### **Geospatial Intelligence Team Lead**

- Lead a shop of 40+ Marines with varying levels of experience. Taught proper industry standard OGS techniques for product creation and geospatial analysis in support of a multitude of military operations in Afghanistan, the Caribbean, and AFRICOM over dozens of billets. Conducted and trained personnel in quality assurance and quality control of the products created and distributed.
- Consolidated map templates and analytical models via Python and command level scripting to assist in custom tailored products to improve team efficiency and allow methodologies to be transferred

effectively between consistent active-duty turnover. Exceeded expectations of customers in product creation the include: humanitarian assistance, counter- narcotic operations, joint operations with partner nations, 3D analysis for aeronautical operations, hydrographic / beach analysis for landing operations, and training products.

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### ADDITIONAL EXPERIENCE

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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

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### EDUCATION & TRAINING

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

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

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