

ABIGAIL SPENCER

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PROFESSIONAL EXPERIENCE

Geospatial Data Analyst (Federal Employee)

National Geospatial-Intelligence Agency, Springfield, VA | October 2022 – Present

Data Lead for premier DoD AI/ML program managing 30 data professionals:

- Perform advanced statistical analysis and data visualization using Python and SQL to identify trends, evaluate training data gaps, and measure model performance, delivering actionable insights to senior leadership
- Analyze geospatial data to develop computer vision algorithms, maintaining program metrics to ensure relevant and reliable data for model training, validation, and testing across operational customer requirements
- Lead cross-functional contractor teams on data governance requirements and standards, promoting integration into existing architectures while managing deliverables and program timelines
- Manage hundreds of petabytes of geospatial data and metadata from satellite imagery for AI/ML model development, ensuring data quality, consistency, and availability for computer vision algorithms
- Coordinate strategic data cleansing and healing initiatives while responding to real-world, real-time events with targeted imagery curation for directed data collection, preventing data gaps and drift
- Establish and optimize data pipelines for large-scale data migration, database metadata management, and quality assurance, enabling continuous improvement in AI training data curation
- Communicate complex technical concepts and current data holdings to senior-level leadership, including US Congressional leaders, presenting data-driven recommendations and strategic analysis from visualization tools to further model development success
- Design and curate complex ontologies across 200+ object classes and 13 attributes, collaborating with federal agencies to build interoperable taxonomies for data labeling and sharing across Intelligence Community and DoD

Special Operations Intelligence and Data Analyst

Joint Special Operations Air Component – Central, Spartan Base, Qatar | May 2021 – June 2022

- Performed statistical analysis and generated time-series data visualizations for operational planning and threat analysis, enabling streamlined risk assessments and high-level insights for immediate action
- Established and sustained quantitative databases for intelligence risk assessments, regional analysis, and research, building actionable reports that drove operational preparation for senior military officers
- Communicated written and graphical intelligence data to various audiences, translating complex analytical findings into data-driven recommendations for strategic decision-making

Intelligence Analyst

Allied Universal, Indianapolis, IN | June 2019 – July 2020

- Constructed quantitative database from qualitative data for trend analysis, tracking, and statistical reporting, generating intelligence mitigation strategies for security deployment optimization and strength
- Prepared multi-page statistical reports on historical trends and risk predictions, utilizing data-driven solutions to address complex organized crime patterns

- Revamped monthly intelligence databases and reports in collaboration with clients, improving personalized analysis to identify vulnerabilities and reduce crime, setting new office standards

U.S. Naval Reserve Intelligence Analyst

Multiple Deployments (VAQ-209, NASIC, EUCOM HQ) | April 2016 – April 2024

- Produced high-level intelligence reports and briefed senior officers daily on foreign developments, earning Fleet Letter of Commendation for outstanding analytical performance
- Conducted fusion intelligence analysis and research, developing weekly intelligence briefings with predictive analysis and assessments for senior aviation and intelligence officials
- Exploited and analyzed geospatial intelligence in joint-service environment, briefing senior officers on foreign military operations and logistical movements

EDUCATION

B.S. Data Science | Indiana University | Expected December 2026

B.S. Criminal Justice | University of Indianapolis | Completed

TECHNICAL SKILLS

Programming & Analysis: Python (pandas, NumPy, GeoPandas), SQL, statistical analysis, data visualization (Plotly & Dash, Matplotlib, Tableau), machine learning foundations, A/B testing

Data Management: Database design and management (PostgreSQL, MySQL, phpMyAdmin), metadata standards, data governance, taxonomy development, ETL

Geospatial: Geospatial data analysis, satellite imagery processing, GEOINT analysis (geoserver, ArcGIS Pro, QGIS, GeoPandas)

Front-End Development: HTML, CSS, React, Next.js, JavaScript, Django

Communication: Technical writing, executive briefings, cross-functional collaboration, data storytelling, documentation

PROFESSIONAL ENGAGEMENTS

Panel Member | 2nd Annual National System for GEOINT AI/Computer Vision Summit | Focused on AI interoperability challenges and responsible AI in GEOINT functional management