ABDOULAYE LEYE

Data Analyst | GIS Specialist | Machine Learning Engineer

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PROFESSIONAL SUMMARY

Data Management and GIS professional with 7+ years of experience specializing in advanced data analytics, spatial analysis, and machine learning solutions for humanitarian and development sectors. Proven track record in building real-time monitoring systems, ETL pipelines, and interactive dashboards. Recently achieved 98.1% ROC-AUC in predictive modeling for employee turnover analysis. Certified in Google Advanced Data Analytics and NASA ARSET Machine Learning.

PROFESSIONAL EXPERIENCE

Data Management/Analyst Specialist

UNHCR, The UN Refugee Agency | Dakar, Senegal

March 2025 - Present

- Manage and analyze operational data to support evidence-based decision-making for refugee operations
- Produce interactive maps and data visualizations for Route-Based Approach monitoring
- Develop and maintain analytical tools and tracking systems for field operations
- Provide technical support to coastal countries on data management and GIS solutions
- Collaborate with regional teams to standardize data collection and reporting processes

Data Analyst & GIS Specialist (Data Lead)

EXBAT SUARL | Dakar, Senegal

January 2023 - March 2025 (2 years 3 months)

- Designed and implemented real-time monitoring system for construction projects (roads, buildings)
- Built automated ETL pipelines integrating Google Forms, Sheets, and BigQuery, reducing manual processing by 80%
- Developed interactive Power BI dashboards for operational reporting and executive decision-making
- Established data quality control procedures ensuring 99.5% accuracy in project indicators
- Led data validation workflows and implemented SQL-based quality checks

GIS Database Manager & Data Analyst (Freelance)

AGI TIP SA | Dakar, Senegal

October 2022 - December 2022 (3 months)

- Implemented dynamic GIS system for spatial tracking of Xeyu Ndaw Gni program projects
- Designed mobile data collection forms using ODK Collect and KoboToolbox
- Created real-time dashboards for daily monitoring of paving construction sites
- Managed spatial database infrastructure and ensured data integrity

GIS Data Integrator

Office National de l'Assainissement du Senegal (ONAS) | Dakar, Senegal

November 2021 - February 2023

- Integrated and structured spatial database for sanitation infrastructure mapping
- Developed comprehensive cartography of national sanitation network
- Standardized GIS data formats and established geodatabase architecture

KEY PROJECTS & ACHIEVEMENTS

Salifort Motors HR Analytics (2025)

Developed ML models (Logistic Regression, Random Forest, Gradient Boosting) to predict employee turnover. Achieved 98.1% ROC-AUC with potential $18.5M annual savings. Utilized Python, Scikit-learn, GridSearchCV.

COVID-19 Real-Time Dashboards (2020)

Created two web applications for COVID-19 monitoring in Senegal: geoplanplus.com/index.php and covide19senegal.herokuapp.com. Provided real-time geospatial visualizations for public health tracking.

GIS Infos & AIT Platform

Founded GIS Infos community and Amenagement et Intelligence Territoriale (AIT) platform for territorial planning and geospatial intelligence solutions.

Yeumbeul Nord SDG Planning Document

Authored comprehensive planning document aligned with Sustainable Development Goals (SDGs) for Yeumbeul Nord commune.

TECHNICAL SKILLS

Programming & Analytics: Python, R, SQL, Pandas, NumPy, Scikit-learn, Machine Learning, Statistical Analysis

Business Intelligence: Power BI, Tableau, Looker Studio, Interactive Dashboards, Data Visualization

GIS & Remote Sensing: QGIS, ArcGIS, PostGIS, Lizmap, QGIS Server, Satellite Imagery Analysis, Cartography

Data Engineering: Google BigQuery, PostgreSQL, ETL Pipelines, Data Integration, Database Management

Data Collection: ODK Collect, KoboToolbox, Google Forms, Survey Design, Mobile Data Collection

Tools & Technologies: Git/GitHub, Jupyter Notebooks, Excel (Advanced), Google Workspace, Web Development (HTML, CSS, JS)

CERTIFICATIONS & PROFESSIONAL DEVELOPMENT

- Google Advanced Data Analytics Certificate (September 2025)
- Google Data Analytics Professional Certificate (February 2023)
- NASA ARSET - Large Scale Applications of Machine Learning using Remote Sensing (March 2024)
- NASA ARSET - Satellite Data for Humanitarian Applications (June 2022)
- FreeCodeCamp - Data Analysis with Python (2020-2021)
- Kaggle - Pandas Certification (March 2022)
- DISASTER READY - Monitoring, Evaluation, Accountability & Learning (MEAL) (May 2021)
- UNICEF - Results-Based Management (May 2021)

EDUCATION

Master's Degree (M2) in Territorial Planning, Decentralization & Local Development
Universite Cheikh Anta Diop de Dakar (UCAD) | 2017-2018

Professional Bachelor's Degree in Geomatics - Mention: Good
Institut Superieur d'Ingenierie Territoriale en Afrique (ISIT/Afrique) | 2015-2016

LANGUAGES

French (Fluent), English (Professional), Wolof (Native)