

Derrick Chefor Ymele Demeveng

Spatial Data Scientist | Public Health and Spatial Epidemiology (ArcGIS · QGIS · PostGIS · Python · R)

demeveng@gmail.com · +1 613 978 7874 · [LinkedIn](#) · [GitHub](#) · [Portfolio](#)

Kenya, Nairobi · English and French (bilingual)

PROFESSIONAL SUMMARY

Geospatial analyst with close to a decade of experience turning spatial data into public health intelligence. I build surveillance and population health analytics on enterprise and open source GIS, design and optimize spatial databases, automate ETL and data integration, and communicate findings through maps, dashboards, and interactive applications for technical, non technical, and executive audiences. My public health work spans polio surveillance and spatial epidemiology across the 47 countries of the WHO African Region and population, accessibility, and climate exposure analysis at UNFPA across 120+ countries. I have delivered for the World Bank, GIZ, WHO, UNFPA, and the Gates Foundation, and I author ODKConnector, a QGIS plugin published on the official QGIS repository.

TECHNICAL SKILLS

Enterprise GIS: ArcGIS Pro, ArcGIS Enterprise, ArcGIS Online, ArcGIS Insights, Python toolboxes

Open Source GIS: QGIS, PyQGIS plugin development, QField, QGIS Server, GDAL/OGR

Spatial Databases: PostgreSQL/PostGIS, spatial SQL, schema design and optimization, spatial queries

Programming and Automation: Python (GeoPandas, PyQGIS), R, SQL, KNIME, automated ETL pipelines, APIs

Spatial Analysis and Statistics: accessibility modelling, hotspot detection, spatial modelling, geostatistics, risk factor analysis

Web Mapping and Cartography: MapLibre GL JS, Leaflet, pg_tileserv, TITiler, thematic cartography, dashboard design

Remote Sensing: Google Earth Engine, satellite and UAV imagery, orthomosaics, DEM, point clouds

Data Governance: metadata standards, data quality frameworks, validation, access control, privacy and security

Reporting and BI: Power BI, Tableau, Looker Studio, Google BigQuery, Microsoft Fabric, Git/GitHub

PROFESSIONAL EXPERIENCE

Programme Specialist, Geospatial Analysis

Mar 2025 to Present

United Nations Population Fund (UNFPA), Nairobi, Kenya

Lead the design and operation of geospatial and data analytics frameworks that support population intelligence, service accessibility, and vulnerability analysis across UNFPA's global programmes, and integrate spatial and statistical data into strategic decision making aligned with the Leave No One Behind agenda.

- Delivered real time geospatial accessibility modelling for Malawi's Emergency Obstetric and Newborn Care prioritization, informing where to strengthen maternal and newborn health services.
- Built an SSP population exposure model that integrates Shared Socioeconomic Pathway population scenarios from WorldPop with the Degree of Urbanization classification, quantifying how population and hazard exposure shift under alternative climate futures.
- Supported the rollout of the Degree of Urbanization (DEGURBA) methodology with national statistics offices in Rwanda, Tanzania, Paraguay, Ghana, and the Dominican Republic, standardizing urban and rural classification for SDG reporting and cross country comparability.
- Architected an enterprise GIS monitoring system giving real time visibility into platform usage, performance, and adoption, and delivered a cost optimization plan that cut licensing costs by roughly 70 percent and hosting and management costs by roughly 50 percent within one year.
- Developed a global census monitoring platform in Power BI, improving oversight of implementation timelines, gaps, and risks across countries.
- Trained 50+ regional trainers and technical teams from more than 20 countries in geospatial analytics and accessibility modelling, and guided the integration of census and survey data into the revamped UNFPA Population Data Portal.

Data Analyst, Polio Surveillance and Data Systems

Jan 2024 to Feb 2025

World Health Organization, Regional Office for Africa, Brazzaville, Congo

Led the design and optimization of data pipelines, quality frameworks, and analytics workflows supporting regional polio surveillance across the WHO African Region.

- Designed and operated automated ETL pipelines in R that integrated laboratory and surveillance data from 16 labs across 47 countries, improving the timeliness and consistency of the data feeding regional decisions.
- Built data quality frameworks with automated validation checks and reporting, strengthening the reliability of surveillance data across the network.
- Authored the data specifications for the Web Information for Action (WebIFA) platform and supported its rollout across 47 countries.

GIS Analyst, Disease Surveillance and Spatial Analytics

Jan 2021 to Dec 2023

World Health Organization, Regional Office for Africa, Brazzaville, Congo

Integrated geospatial analytics into disease surveillance and immunization systems for poliovirus across the WHO African Region, supporting risk assessment, operational planning, and performance monitoring.

- Delivered spatial analyses for monthly regional risk assessments and weekly operational reviews, including hotspot and coverage analysis that informed targeted interventions and resource allocation.
- Designed a regional geospatial monitoring and evaluation dashboard aligned with the Global Polio Surveillance Action Plan, enabling continuous tracking of surveillance performance indicators.
- Managed the regional environmental surveillance geospatial infrastructure, including site registries, catchment areas, and population coverage datasets, on PostgreSQL/PostGIS and KNIME pipelines.
- Developed automation tools in Python, an ArcGIS Pro toolbox, and a QGIS plugin to streamline geospatial data ingestion, processing, and visualization, and scaled electronic field data collection across 40+ countries.

GIS Analyst

Jun 2020 to Dec 2020

Bill and Melinda Gates Foundation, Brazzaville, Congo

Strengthened disease surveillance and outbreak response through geospatial and data driven approaches across countries in the WHO African Region.

- Scaled ODK based environmental surveillance for poliovirus across Mauritania, Burkina Faso, Benin, and Chad, improving data quality and reporting consistency.
- Built ArcGIS Online monitoring dashboards giving stakeholders real time visibility into surveillance performance.

Geomatics Project Manager

Aug 2019 to May 2020

SOGEFI, Yaounde, Cameroon

Led the design, deployment, and scaling of geospatial data infrastructure and analytics for development, humanitarian, and infrastructure projects with international partners.

- Scaled the GeOSM open spatial data infrastructure from a single country to 20 African countries, architecting PostgreSQL/PostGIS databases and deploying QGIS Server web mapping services.
- Delivered disaster risk reduction analyses for the World Bank and GIZ, including flood risk mapping, service accessibility, and socioeconomic exposure analysis.
- Designed a QField and ODK community data collection framework for flood risk mapping that the World Bank recognized as cost effective and scalable.

Survey and Geomatics Engineer

2017 to 2019

SGDS International and Group Galant and Friends, Yaounde, Cameroon

Delivered geodetic and topographic surveying for national infrastructure and reference network projects.

- Executed GNSS geodetic network densification and least squares adjustments and ran drone and total station surveys of road corridors, producing orthomosaics, DEMs, and point clouds that strengthened national spatial reference systems.

EDUCATION

MSc, Spatial Data Science, with Graduate Certificate in Geospatial Programming and Web Map Development

2023

Pennsylvania State University, USA

Professional Certificate, Data Engineering

2025

Massachusetts Institute of Technology, USA

MEng, Land Surveying

2017

National Advanced School of Public Works, Cameroon

CERTIFICATIONS, AWARDS, AND OPEN SOURCE

Certifications: Monitoring and Evaluation (ITCILO); Introduction to Big Data (UC San Diego); Machine Learning (Stanford); TensorFlow for AI and Machine Learning (DeepLearning.ai)

Award: 2019 African Young Surveyor, International Federation of Surveyors (FIG)

Open Source: Author of ODKConnector, a published QGIS plugin bridging ODK field data collection and QGIS (plugins.qgis.org/plugins/odkconnector2)