

Joseph T Maina

GIS Developer

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PROFILE

GIS Engineer / Geospatial Software Engineer with **4 years of experience** designing, building and operating cloud-based geospatial platforms and large-scale spatial data pipelines. Strong background in GIS software development, spatial ETL, and SDG-driven analytics for global organizations. Proven ability to deliver production-ready geospatial systems, optimizing data pipelines, and working in distributed, and remote-friendly teams.

PROFESSIONAL EXPERIENCE

UNDP, GIS Developer

01/2022 – 12/2025 | New York, NY/Remote

- Core contributor to GeoHub, a cloud-based geospatial platform delivering SDG analytics and decision-support services across multiple regions.
- Designed and implemented scalable spatial ETL pipelines for ingestion, validation, transformation, and publication of large SDG datasets.
- Led the redesign of the DataFutures Exchange ETL pipeline, improving processing performance by ~60% and increasing data reliability.
- Built and maintained backend GIS services using Python-based frameworks and cloud-native architectures.
- Developed interactive geospatial frontends using modern web mapping libraries (Mapbox, MapLibre, Leaflet).
- Authored technical specifications and documentation for complex geospatial systems used by internal teams and country offices.
- Supported production environments, CI/CD pipelines, and automated deployments, improving system reliability and reducing downtime.
- Collaborated with distributed teams of engineers, analysts, and external partners in a remote-first environment.
- Provided technical guidance on geospatial data workflows, SDG indicators, and best practices to internal stakeholders.

GoalSpatial LTD, Co-Founder and Chief Technology Officer

01/2023 – 07/2025 | Nairobi, Kenya

- Co-founded a geospatial technology startup focused on custom GIS software and spatial data platforms
- Led end-to-end design and development of GIS applications (desktop/web/backend)
- Architected spatial data pipelines using PostGIS, Python, and open-source GIS tools
- Designed and implemented web-based GIS systems for data visualization, analysis, and reporting
- Managed technical roadmap, system architecture, and development standards
- Led and mentored developers and GIS analysts
- Engaged with clients/stakeholders to translate requirements into technical solutions

Kenya Red Cross Society, Volunteer GIS Mapper / Digitization Support

01/2018 – 12/2023 | Nairobi, Kenya

- Supported disaster response efforts through GIS mapping and spatial data digitization
- Digitized flood, fire, and emergency-affected areas to support response planning
- Assisted in producing maps for field teams and humanitarian coordination
- Worked with satellite imagery and base data under time-sensitive conditions
- Ensured data accuracy and consistency during rapid response mapping

EDUCATION

Bachelor of Engineering in Geospatial Engineering,

09/2016 – 12/2023 | Nairobi, Kenya

The Technical University of Kenya

Relevant Coursework: GIS, Remote Sensing, Spatial Databases, Cartography, Geospatial Programming

SKILLS

Core GIS and Geospatial

- QGIS, ArcGIS
- GeoNode
- GDAL, Rasterio, Geopandas
- Spatial ETL, SDI design, cartography & spatial analysis

Backend & Data Engineering

- Python, Java, Node.js
- FastAPI, Django, Flask
- PostgreSQL/PostGIS, MongoDB
- Apache Spark

Cloud & DevOps

- Docker, Kubernetes
- GitHub Actions (CI/CD)
- Microsoft Azure (primary), GCP, AWS

Web Mapping

- Mapbox, MapLibre, Leaflet, OpenLayers

Frontend

- TypeScript, JavaScript
- React, SvelteKit, Vue.js