

EMMACULATE MUTEI MUKULU

GIS ANALYST

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PROFESSIONAL SUMMARY

A dynamic and proactive Geospatial Information Science professional proficient in spatial data analysis, spatial planning, remote sensing, surveying and mapping. I am skilled in using cutting-edge technologies like AI and programming to create innovative geospatial solutions. With a strong aptitude for learning and a passion for continuous growth, I aim to become a valuable asset in the geospatial industry, delivering impactful solutions that drive innovation and support sustainable development.

EDUCATION

Bachelor of Science in Geospatial Information Science

Jomo Kenyatta University of Agriculture and Technology (2018 - 2023)

- Relevant Coursework: Geographic Information Systems, Remote Sensing, Cartography, Environmental Impact Analysis, Spatial Analysis, Computer Programming, Surveying, Engineering Survey.
- Thesis: Spatial-temporal monitoring and prediction of desertification: A case study of Kitui County.

Kenya Certificate of Secondary Education

Loreto High School Limuru (2014 - 2017)

EXPERIENCE

GIS Analyst - Intern

Spatial Milestone (K) Limited (April 2024 - December 2024)

- Digitized RIMs and aerial imagery.
- Derived DTMs, DSMs and DEMs from drone imagery.
- Carried out field data collection using ODK software.
- Conducted cadastral and topographical survey using GNSS RTK equipment.
- Executed data cleaning and preprocessing using Excel and ArcGIS Pro.
- Performed spatial analysis, including land-use and land-cover classification and proximity analysis.
- Produced visually compelling maps, such as environmental status maps, air quality maps, basemaps and topographical maps.
- Prepared precise survey plans, road cross-sections and longitudinal profiles using AutoCAD Civil 3D.
- Authored comprehensive survey reports.
- Developed and maintained a spatial database.
- Designed 2D and 3D site plans using ArchiCAD and Adobe Photoshop.

GIS Data Collector - Intern

Kenya Power and Lighting Company, PLC (November 2023 - April 2024)

- Mapped Kenya Power infrastructure (meters, poles, transmission lines, transformers) using Field Maps mobile GIS software.
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VOLUNTEER EXPERIENCE

Mapper & Data Validator

Humanitarian OpenStreetMap Team (2022- Present)

- Digitized features, including buildings, roads, and waterways, to support disaster preparedness and response initiatives.
- Reviewed and validated mapped features to ensure accuracy, consistency, and compliance with mapping standards.

Data Analyst

Clinton Health Access Initiative, Inc (December 2023)

- Cleaned health data using Excel.
 - Digitized roads on OpenStreetMap to enhance accessibility to health facilities.
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SKILLS

GIS and Remote Sensing

- Proficient in spatial analysis, satellite and drone imagery processing, data visualization and cartographic design.
- Software: ArcGIS Pro, QGIS, Google Earth, Google Earth Engine, ERDAS Imagine, Agisoft Metashape.

Design and Drafting

- Experienced in drawing survey plans, road cross-sections, longitudinal profiles and site plans.
- Software: AutoCAD Civil 3D, ArchiCAD, Adobe Photoshop and Canva.

Surveying and Data Collection

- Experienced in collecting field data using mobile software: ODK, Fieldmaps, Survey123.
- Skilled in operating RTK, Total Station, Levels and Handheld GPS.
- Experienced in cadastral, topographical, ground control and engineering surveys.

Programming

- Proficient in Python - ArcPy, PyGIS, Numpy, Pandas and Matplotlib.

Geodatabase Management

- Skilled in developing, maintaining, and managing spatial databases.
- Experienced in SQL and PostgreSQL.

Other Core Skills

- Proficient in Microsoft Office Suite (Word, Excel, PowerPoint) and Google Workspace (Forms, Docs, Sheets, Slides)
- Strong analytical thinking, problem solving, adaptability, and flexibility.
- Excellent written and oral communication skills, including technical report writing.
- Strong aptitude and enthusiasm for continuous learning and skill development.

PROFESSIONAL MEMBERSHIP

Member and Ambassador: Esri Young Professionals Network

Individual Member: International Society for Photogrammetry and Remote Sensing

GIS Chapter Graduate Member: Institution of Surveyors of Kenya

REFEREES

Penina Oyembo

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