

# EMMACULATE MUTEI MUKULU

## GIS ANALYST

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Address: Nairobi, Kenya

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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.

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## 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)*

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## EXPERIENCE

### GIS Analyst - Intern

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

- Digitized scanned 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 and informative maps for result presentation, including 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 geodatabase.
- Designed 2D and 3D site plans using ArchiCAD and Adobe Photoshop.

### GIS Intern

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

- Mapped Kenya Power infrastructure (meters, poles, transmission lines, transformers) using Fieldmaps mobile GIS software.

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## VOLUNTEER EXPERIENCE

### Mapper and 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, JavaScript, HTML, and CSS.

### Geodatabase Management

- Skilled in developing, maintaining, and managing geodatabases.
- 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.

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## 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

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## REFEREES

### Penina Oyembo

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