

CHINA KEITH NYONGESA

BSc. Geospatial Information Science | Second Class Upper Honours

Maseno University, 2025

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PROFESSIONAL SUMMARY

Results-driven Geospatial Information Science graduate (Second Class Upper, Maseno University, 2025) with practical experience in GIS data digitization, spatial database development, flood risk mapping, and transport network analysis. Demonstrated ability to deliver high-quality geospatial outputs through industry attachments at Ardhi House Kitale and Shaclau Limited. Proficient in ArcGIS, QGIS, Google Earth Engine, ERDAS Imagine, AutoCAD/Civil 3D, and Python/R. Eager to contribute to impactful projects across environmental, urban, infrastructure, humanitarian, and agricultural sectors.

WORK EXPERIENCE & ATTACHMENTS

GIS Intern / Attachment Student | Ardhi House (Survey of Kenya — Trans Nzoia Office), Kitale | 2024

- Participated in the digitization of RIMS (Registry Index Maps) for Trans Nzoia County, converting physical cadastral maps into accurate digital spatial data using ArcGIS and AutoCAD
- Assisted in updating land parcel boundaries, ownership records, and spatial attributes in the county GIS database
- Supported field surveying activities including GPS data collection and ground-truthing of mapped features
- Prepared and quality-checked cartographic outputs for submission to county land administration offices
- Gained practical exposure to land information management systems and government cadastral workflows

GIS / Surveying Attachment | Shaclau Limited, Kitale | 2024

- Assisted in topographic and boundary surveying fieldwork using Total Station and GPS equipment
- Processed and analysed field-collected spatial data to generate accurate survey maps and reports
- Supported the preparation of engineering drawings and site plans using AutoCAD/Civil 3D
- Collaborated with senior surveyors on client projects, developing practical skills in professional geospatial consultancy environments

EDUCATION

Bachelor of Science in Geospatial Information Science — Second Class Upper Honours

Maseno University, Kisumu, Kenya | Graduated: 2025

- Dissertation: Application of GIS in Transport Management in Kisumu County — analysed road network data, traffic flow, and spatial patterns to improve transport planning and infrastructure decision-making
- Key coursework: Remote Sensing, Cartography, Photogrammetry, Spatial Analysis, Land Surveying, Environmental Monitoring, Urban & Regional Planning, Geodatabase Management

Kenya Certificate of Secondary Education (KCSE)

Kanga High School

KEY PROJECTS

Application of GIS in Transport Management — Kisumu County | Final Year Dissertation, 2024–2025

- Collected, processed, and analysed spatial transport data including road networks, public transit routes, and accident hotspots across Kisumu County
- Used ArcGIS Network Analyst to model transport accessibility, identify bottlenecks, and propose evidence-based planning interventions
- Produced comprehensive cartographic outputs and a policy-oriented report presented to faculty panel

Flood Risk Mapping — Nyalenda Informal Settlement, Kisumu | Academic Project, 2024

- Conducted flood vulnerability assessment for Nyalenda using DEM (SRTM), rainfall data, and land cover layers integrated in ArcGIS
- Applied Multi-Criteria Evaluation (MCE) to delineate high-risk flood zones and generate risk classification maps

- Fieldwork conducted using GPS to validate modelled flood extents against community-reported flood areas
- Outputs contributed to understanding of urban flood management challenges in low-income settlements

Digitization of RIMS — Ardhi House, Trans Nzoia County | Attachment Project, 2024

- Digitized Registry Index Maps (RIMS) for Trans Nzoia County, converting historical paper-based cadastral records into a structured, queryable GIS dataset
- Ensured spatial accuracy and attribute completeness, supporting county land administration and property registration workflows

Geodatabase Development — Maseno University Campus | Academic Project, 2023

- Designed and built a comprehensive geodatabase of Maseno University capturing buildings, roads, utilities, and land use zones
- Conducted GPS field data collection across campus and integrated results into ArcGIS feature classes with full attribute schemas
- Produced a detailed campus map and metadata documentation for institutional use

Agricultural Land Suitability & LULC Analysis | Coursework Project, 2023

- Used Google Earth Engine to analyse multi-temporal Sentinel-2 imagery and compute NDVI vegetation indices for agricultural productivity mapping
- Performed supervised land use/land cover classification to identify suitable agricultural zones in Western Kenya

TECHNICAL SKILLS

GIS Software	ArcGIS / ArcMap, QGIS, Google Earth Engine, ERDAS Imagine
CAD & Engineering	AutoCAD, Civil 3D
Programming	Python (GeoPandas, Rasterio, Shapely), R (sf, terra), GEE JavaScript API
Field Equipment	GPS (Garmin/Trimble), Total Station, ODK Collect, KoBoToolbox
Data & Databases	Geodatabase design (ArcGIS), Spatial SQL, RIMS/cadastral data
Competency Areas	Transport GIS, Flood Risk Mapping, Land Use Mapping, Urban Planning, Environmental Monitoring, Cadastral Surveying, Agriculture & Food Security

KEY COMPETENCIES

Spatial Data Analysis • Geodatabase Design & Management • Cartographic Production • Remote Sensing & Image Classification • Field Surveying & GPS Data Collection • Report Writing • Attention to Detail • Client-Facing Communication • Teamwork • Problem Solving

REFEREES

Available upon request. Academic referees from Maseno University and professional referees from Ardhi House Kitale and Shaclau Limited can be provided.