

ERIC MUSONERA

Geospatial Software Developer | Data Scientist

CONTACT

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EDUCATION

- Master of Geospatial Technologies (MSc.)

Münster/Jaume I Universities, Germany/Spain | 2023 – 2025

- Bachelor of Science in Geography (Urban & Regional Planning)

University of Rwanda | 2016 – 2021

CERTIFICATE

- ArcGIS Pro Associate 2101 | [Verify](#)

SKILLS

Geospatial Technologies:

ArcGIS Pro| ArcGIS Online| PostGIS| PostgreSQL| Geoserver| Leaflet

Data Visualization Applications:

ArcGIS Dashboard| ArcGIS Insight| Tableau| Power BI| Custom Applications

ETL Workflow Skills:

Script Writing| Model Builder

Programming Skills:

Python, SQL, JavaScript, R, D3.js, Dc.js

Soft Skills:

Leadership| Team Collaboration| Effective Communication| Time Management

PROFILE SUMMARY

I am dedicated Geospatial Software Developer and Data Scientist with a strong foundation in GIS, spatial data analysis, and visualization. I recently completed my MSc in Geospatial Technologies from Münster/Jaume I Universities and hold a BSc in Urban & Regional Planning from the University of Rwanda. As a certified "ArcGIS Pro Associate 2101," I have extensive experience managing geospatial databases, developing innovative GIS applications, and delivering tailored solutions for government agencies, international organizations, NGOs, and private-sector clients.

WORK EXPERIENCE

GIS Specialist

Esri Rwanda, Kigali, Rwanda | Sep 2020 – Aug 2023

At Esri Rwanda Ltd, which I joined in 2020, I was responsible for working on various projects involving spatial data processing, analysis, and visualization. My role required a strong understanding of Esri software and other GIS tools to support government agencies, international organizations, NGOs, and private-sector clients in the region.

My responsibilities included:

- Managing PostgreSQL geospatial databases to store, query, and analyze spatial data efficiently.
- Integrating PostGIS databases with ArcGIS Online and ArcGIS Enterprise, ensuring seamless data sharing and web-based GIS functionalities.
- Developing geospatial applications for desktop, web, and mobile platforms to support spatial analysis, mapping, and decision-making.

I also played a role in implementing GIS solutions tailored to clients' needs, ensuring that geospatial technologies were effectively applied to real-world challenges across Rwanda, Burundi, and the Republic of Congo.

Student Leaders Forum On Sustainability and Climate Change

Prime Biodiversity Conservation and FES Rwanda, Kigali, | Feb - May 2021

Through the program, various activities, including workshops and idea-generation sessions, have been conducted to promote sustainability, climate change mitigation, and adaptation. The core discussion points include:

- Raising awareness on climate change and its impacts.
- Evaluating the effectiveness of climate change mitigation and adaptation strategies.
- Understanding climate finance concepts, approaches, and the application of appropriate technologies.

Academic Internship

Rwanda Housing Authority, Kigali, Rwanda | Aug 2019 – Sep 2019

- Assisted in street addressing initiatives and layout planning for urban development projects.
- Supported data collection and master plan enhancements.



PROJECTS & ASSIGNMENTS

Work Undertaken That Best Illustrates Capability to Handle the Tasks Assigned

1 *Building Urban Dynamic Map and Decentralizing the Spatial Development Framework | MINIFRA | Kigali | 2022*

- Designed geodatabases and streamlined data structures for UDM projects.
- Developed web apps and dashboards for real-time data visualization.
- Configured field data collection tools for public engagement in urban updates.

Impact: Enhanced data accessibility and monitoring efficiency by 80%.

3 *Capacity Building on Geospatial Techniques in Water Resource Management | Rwanda Water Board | 2020*

- Prepared training materials and study guides on flood mitigation, erosion control, and water quality control.
- Developed a GIS-based algorithm for flood control and a RUSLE-based model for soil erosion modeling, improving risk assessment and mitigation strategies.
- Designed an integrated automated workflow for water quality control, along with a dashboard application to track changes in water quality over time.

Impact: Improved flood prevention measures and water resource monitoring by 75%.

5 *Application of Network Lines for Monitoring Connectivity | ARPCE | Congo Brazzaville | 2021*

- Executed ETL processes and implemented security protocols to manage access to data tables in a PostgreSQL relational database.
- Published referenced feature services on Portal for ArcGIS, ensuring seamless data sharing and accessibility.
- Developed web maps, dashboards, and applications to enable users to perform spatial analysis in a web-based environment.

2 *Change Detection and Urban Growth Monitoring Toolkit | City of Kigali | 2022*

- Developed a model to classify MAXAR satellite images, extracting meaningful insights for spatial analysis.
- Designed geospatial applications to monitor urban growth and construction, enabling data-driven decision-making.
- Conducted training sessions on field application usage for municipal officials, enhancing their ability to collect and manage geospatial data.

Impact: Streamlined urban planning efforts, reducing inefficiencies by 90%.

4 *Integrated Aerial Survey for Lidar Topographic Data Acquisition | CHARIS | Kigali | 2022*

- Performed data quality checks to ensure compliance with topological rules, validating extracted vector data from drone-captured imagery.
- Developed a model semantic framework to verify spatial relationships in data, enabling seamless merging, integration, and database loading.

6 *Training on ArcGIS Desktop Pro, Online, and Field Apps | Minister of Environment | Kigali | 2022*

- Delivered and installed ArcGIS Desktop Software.
- Taught geodatabase creation, editing, and analysis using model builder.
- Instructed on creating web maps and configuring apps using web app builder, story maps, and dashboards.
- Demonstrated survey design via both XLS forms and web platforms.
- Explained the use of workforce tools for field task assignments.

REFEREES

- Prof. Michael Gould Carlson/gould@uji.es/Esri educator/Jaume I University
- Mr. Jean Pierre Gatera/j.gatera@esri.rw/Managing Director/Esri Rwanda
- Prof. Dr. Angela Schwering/schwering@uni-muenster.de| Head of SIL Munster University.

LANGUAGES

- English: Fluent
- German: A2 level
- French: Basics

HOBBIES

Biking| Jogging|
Learning New Skills

