

PETER KABANO

GEOSPATIAL DATA SCIENTIST

CONTACT

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KEY SKILLS

Hard skills & techniques

- Data management
- Data Analytics (statistics & machine learning)
- Data visualisation & cartography
- Programming
- Remote sensing
- Big data and cloud computing
- Web mapping
- Project Planning
- Reporting and presentation
- Teaching and demonstration

Software & Tools

- Python
- R
- PostgreSQL & SQL
- Google Earth Engine
- JavaScript
- HTML & CSS
- QGIS
- ArcGIS Pro
- Kepler.gl
- ENVI
- Saga-GIS

Languages

- English (Fluent)
- German (Intermediate B1)

PROFILE

I am passionate about unlocking the hidden insights within data, transforming them into actionable strategies for the success of projects and businesses.

EXPERIENCE

GEOSPATIAL DATA SCIENCE TEACHER / RESEARCHER

• OCT 2021 – SEP 2023

Geoinformation Processing Department, University of Twente • Enschede, Netherlands

- Developed data analytical workflows for six projects. For example, I developed a project implementation and analytical plan for a research proposal (titled: “*Mapping Spatiotemporal Patterns of Desertification in Algeria*”) that successfully secured funding from the European Space Agency and African Union Partnership
- Delivered over 50 lectures (each lasting 1-hour) lectures and led 60 practical exercises (each 2 hours long) covering topics in geoinformatics and geo-data science (e.g., Geo-computing, programming, spatial databases and data management, spatial data analytics & systems modelling, data visualisation, web mapping and academic skills). Classes ranged between 15 – 30 students
- Designed and graded over 10 project assignments and 10 exams covering topics in geoinformatics and geo-data science.

RESEARCH SCIENTIST • MAY 2020 – SEP 2021

Department of Urban and Regional Planning & Geo-information Management, University of Twente • Enschede, Netherlands

- Spearheaded a collaboration between University of Twente and Makerere University to deploy a low-cost low-energy wireless sensor network for climate monitoring (air temperature, relative humidity, soil moisture, light intensity and rainfall) in Kampala
- Reviewed and analysed a collection of 165 scientific articles on studies about climate in cities
- Volunteered as a reviewer for five peer reviewed scientific journals

DOCTORAL RESEARCHER / TUTOR • SEP 2015 – NOV 2019

Geography Department, University of Manchester • Manchester, UK

- Organised the collection and management of large sensor network

- French (Basic)
- Swahili (Fluent)

EDUCATION

PHD PHYSICAL GEOGRAPHY

• SEP 2015 – NOV 2019

University of Manchester,
Manchester

Project title: Investigating the influence of tropical climates on vegetation seasonality (case study of Kampala city)

MSC GEOGRAPHICAL INFORMATION SCIENCES

• SEP 2012 – SEP 2013

University of Manchester,
Manchester

ADDITIONAL COURSES & TRAINING

PYTHON FOR MACHINE LEARNING AND DATA SCIENCE BOOTCAMP

• 2022 – 2023

Udemy (trainer: *Jose Portilla*)

GEOSPATIAL DATA SCIENCE: STATISTICS AND MACHINE LEARNING • 2021 – 2022

Udemy (trainer: *Mike Miller*)

THE COMPLETE SQL BOOTCAMP: GO FROM ZERO TO HERO • 2021 – 2022

Udemy (trainer: *Jose Portilla*)

data. This involved deployment of a dense network of sensors observing climate (air temperature, humidity and soil moisture) in 35 locations within a radius of 7 km for a period of two years (180 – 200 k observations per site) in Kampala city. Other data sets used in the study consisted of ground-based vegetation status (480 Red5 and Near-Infrared imagery and 480 entries of visual observations), remotely sensed vegetation status (144 EVI images), land surface temperature (144 images).

- Used supervised machine learning (pixel-based) and rule-based classification of image objects (i.e., segments) to classify local climate zones and land cover (i.e., biophysical factors) in the study city of Kampala using optical imagery (i.e., Landsat8 OLI TIRS & World View 3)
- Created explanatory models for prediction and mapping of local climate and vegetation stress and seasonal length across the entire case study city of Kampala using a combination of satellite imagery and ground observations
- Supervised, guided and provided feedback to groups of 20 – 30 students in a total of 24 GIS and remote sensing techniques. Each practical lasted 2-3-hours
- Supervised, guided and provided feedback to a group of 30 Masters students on a 2 week overseas field research project
- Published 5 scientific articles in peer-reviewed journals (3 as first author)
- Presented at 4 International conferences (ICUC 10 - New York, USA; Phenology conference – Melbourne Australia; Cities and Climate Change conference – Potsdam, Germany; AARSE conference – Kampala, Uganda)
- Successfully acquired 3 research grants. Two grants were from the Intergovernmental Panel Climate Change research grants; one was from EPSRC UK council

FIELD RESEARCH ASSISTANT & PROJECT MANAGER • APR 2008 – AUG 2015

Max Planck Institute for Evolutionary Anthropology • Leipzig, Germany & Uganda

- Designed a field data collection protocol for monitoring three wild mountain gorilla groups undergoing habituation for tourism across a two year period. The data consisted of movement patterns (i.e., flight and avoidance) and aggressive display towards human observers
- Processed, analysed and presented the findings to wildlife management authorities through oral presentation and written reports, leading to an informed launch of tourism of the groups
- Led the spatial analysis of a team of 15 during 2 censuses of wild mountain gorillas. Each census lasted for 3-weeks.
- Volunteered in the production of 5 publications, including 1 for a children's magazine (Nature for Kids)