

Sinethemba Blessing Ngcongo

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TECHNICAL PROFILE

Organizational Informatics graduate with hands-on experience in full-stack development (React, JavaScript, SQL), data analysis (R, Python), and geospatial analysis (QGIS).

Demonstrated ability to translate business requirements into functional systems through comprehensive system analysis, database design, and statistical modelling.

EDUCATION

Stellenbosch University | 2022 - 2025

BA Humanities: Organisational Informatics and Geography Environmental Studies

- Key modules: Systems Development (OI 348), Systems Analysis & Design (OI 318), Computational Social Science (SI 348), Geographic Communication (GEO 363)
- Selected participant for International Summer School: Doing Business in Southern Africa (2025)

Ebenezer Maranatha Institute | 2018 | *Matric*

TECHNICAL PROJECTS

Full-Stack Information System Development | *OI 348 - Systems Development*

- Architected organizational information system using React, React-Admin, and JavaScript with Trailbase backend
- Designed normalized relational database with SQL DDL statements and complex queries for data retrieval
- Applied Agile/Scrum methodology with sprint planning, standups, and Git/GitHub version control
- Created comprehensive BRD including UML diagrams (class, activity, use case) and wireframes

Advanced Data Analysis in R | *SI 348 - Computational Social Science*

- **Customer Segmentation:** Performed RFM analysis on 397,884 retail transactions using k-means clustering with elbow/silhouette validation methods
- **Olympic Performance Analysis:** Built linear regression models analysing 100+ years of Olympic data with comprehensive EDA using tidyverse
- Generated reproducible research reports using Quarto with professional ggplot2 visualizations

Enterprise System Analysis & Database Design | *OI 318 - Systems Analysis*

- Conducted real-world system analysis for MyBrew coffee shop through stakeholder interviews
- Designed normalized database with ERD spanning 10+ entities and comprehensive UML documentation (use case, sequence, activity diagrams)
- Modelled complex workflows: inventory management, loyalty tracking, payment processing with proper referential integrity

Geospatial Analysis & Site Selection | *GEO 363 - Geographic Communication*

- Performed multi-criteria spatial analysis using QGIS for optimal residential development site selection
- Applied vector analysis (buffer, intersect operations) and raster analysis on DEM (slope, aspect, terrain suitability)
- Created professional cartographic outputs with WGS 84/UTM projection system and documented reproducible workflow

Python API Integration Application | *Python Development Project*

- Developed command-line application integrating external movie API for real-time data retrieval
- Implemented search functionality with comprehensive results display and robust error handling for edge cases

TECHNICAL SKILLS

Programming & Development: JavaScript, Python, R, SQL | React, React-Admin | Trailbase | Git, GitHub

Data Science & Analytics: R (tidyverse, ggplot2, statistical modelling, k-means clustering, regression) | RStudio, Quarto | EDA, RFM analysis, hypothesis testing, cluster validation

Database & System Design: SQL (DDL, DML, complex queries), normalization, ERD design | UML modelling (use case, class, sequence, activity diagrams) | Visual Paradigm, Typst

Geospatial Analysis: QGIS (vector/raster analysis, geoprocessing, buffer analysis, DEM analysis, multi-criteria evaluation) | WGS 84, UTM projections

Project Management: Agile, Scrum (sprint planning, standups, backlog management) | BRD documentation, requirements engineering

RELEVANT EXPERIENCE

amaMaties (SU) | *Cluster Convenor* | September 2024 - September 2025

- Coordinated administration and data management for cluster activities, applying information management skills to improve operational efficiency

SU Zulu Society (SU) | *Co-founder and Chairperson* | August 2023 - 2025

- Led organizational strategy and event coordination, managed stakeholder relationships and cross-functional collaboration

NG Events | *Founder & Director* | 2019 - 2020

- Managed full event lifecycle including budgeting, vendor coordination, and stakeholder liaison
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ADDITIONAL EXPERIENCE

Leadership: Capri PSO House Committee Member (2023-2024) | SRC Marketing Subcommittee (2022)

Community Engagement: Listen, Live, and Learn Programme Resident (2025) | Volunteer Math Literacy Teacher at Stellenbosch Community Learning Centre (2024)

REFERENCES

Available upon request