

SINOTHANDO MTHOMBENI

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Portfolio: [Sinothando Mthombeni | Software & Data Engineer](#)

PROFESSIONAL PROFILE

Motivated IT graduate with a strong foundation in software development, data-driven systems, and enterprise IT concepts. Experienced in backend development, database design, data analysis, and system-oriented problem solving through academic, assistantship, and personal projects. Seeking graduate or entry-level roles where I can apply my technical skills, continue learning, and contribute to building reliable, well-structured technology solutions.

EDUCATION

Bachelor of Science in Information Technology

North-West University

February 2022 – November 2025

Subject Summary:

Data Structures & Algorithms, Databases, Systems Analysis & Design, Object-Oriented Programming, Operating Systems, Artificial Intelligence

WORK EXPERIENCE

Decision Support Systems Student Assistant (CMPG 322)

North-West University, Vanderbijlpark

June 2025 – November 2025

- Supported undergraduate students in understanding decision support systems, data analysis workflows, and system design concepts
 - Assisted with practical exercises involving data modelling, analytical reasoning, and structured problem solving
 - Provided academic support through assignment guidance, consultation sessions, and module administration
 - Strengthened communication and mentoring skills while working in a structured academic environment
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PROJECT EXPERIENCE

Socio-Economic Wellbeing Analysis (NIDS) – Data Visualization Project

Personal Project | January 2025

- Developed a multi-wave data visualization project using South Africa's National Income Dynamics Study (NIDS) to analyse household expenditure per capita as a measure of socio-economic wellbeing
- Built a scalable Python-based data pipeline to clean and harmonize survey data across five waves
- Produced longitudinal visualizations revealing persistent inequality and uneven economic recovery trends

Technologies: Python, Pandas, NumPy, Matplotlib, Seaborn

Heritage Site Information System – Data & Backend Engineering Project

Personal Project | 2024 – 2025

- Designed and developed a data-driven web application using Django with PostgreSQL for transactional data and MongoDB for analytical workloads
- Created normalized relational schemas and implemented complex SQL queries for reporting and analysis
- Developed REST-style APIs, applied service-layer architecture, and implemented automated testing

Technologies: Django, PostgreSQL, MongoDB, SQL, Git, PyTest, Docker

Enterprise Network Design – Academic Project

North-West University | May 2025

- Designed and simulated a secure enterprise network using Cisco Packet Tracer
- Implemented VLAN segmentation and configured DHCP, DNS, NAT, and centralized storage services
- Applied enterprise networking principles to support scalable and secure system environments

Technologies: Cisco Packet Tracer

SKILLS

Programming & Development:

Python, Java, C#, C++, Object-Oriented Programming, Backend Development

Databases & Data:

SQL, PostgreSQL, MongoDB, Data Modelling, Normalization, Query Optimization, ETL/ELT concepts

Analytics & Visualization:

Exploratory Data Analysis, Data Cleaning, Matplotlib, Seaborn

Tools & Platforms:

Git/GitHub, Docker, PyTest, Oracle SQL Developer, Azure (Foundational)

ADDITIONAL INFORMATION

Languages:

Siswati (Native), English (Fluent), Zulu (Fluent)

Areas of Interest:

Software Engineering & Software Development, Data Engineering, Data Analytics, Infrastructure & Networking

Career Goal:

To grow into a well-rounded technology professional who contributes to building scalable, data-driven, and reliable systems while continuously developing technical and analytical expertise.