

# SINOTHANDO MTHOMBENI

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GitHub: <https://github.com/Sinothando-Mthombeni>

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

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## 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.

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## 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

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## 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

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### **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

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### **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

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## **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)

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## **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.