

SINOTHANDO MTHOMBENI

Bachelor of Science in Information Technology Graduate

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Portfolio: <https://sinothando-mthombeni.github.io/myportfolio/>

PROFESSIONAL SUMMARY

IT graduate with expertise in coding and data-centric software engineering. Proficient in data modelling, ETL/ELT pipelines, and SQL optimization, with hands-on experience in backend development using Django, ASP.NET, and Spring Boot. Skilled in implementing data pipelines and working with both relational and NoSQL databases. Demonstrated problem-solving abilities and collaboration in academic and project settings, actively pursuing roles in Data Engineering and Software Engineering.

EDUCATION

Bachelor of Science in Information Technology

North-West University

Completed: November 2025

Relevant Coursework:

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

WORK EXPERIENCE

Decision Support Systems Student Assistant (CMPG322)

North-West University, Vanderbijlpark, Gauteng

From: June 2025

To: November 2025

- Supported students in understanding data analysis workflows, decision support systems, and system design principles.
 - Assisted with practical exercises in data modelling, analytics, and technical problem-solving.
 - Provided guidance on assignments and module administration.
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PROJECTS

Heritage Site Information System – Data & Backend Engineering Project

Personal Project, 2024-2025

- Designed and developed a data-driven system using Django with PostgreSQL for transactional data and MongoDB for analytical workloads.
- Created normalized relational schemas, advanced SQL queries (CTEs, aggregations, indexing), and integrated NoSQL for flexible reporting.
- Implemented REST-style APIs, service-layer architecture, automated tests (pytest), and CI/CD using GitHub Actions.
- **Technologies:** *Django, PostgreSQL, MongoDB, SQL, GitHub Actions, Docker*

Enterprise Network Design – Academic Project

Academic Project, May 2025

- Designed and simulated a secure enterprise network in Cisco Packet Tracer with centralized routers, firewalls, and multilayer switches.
- Configured VLAN segmentation, DHCP, DNS, NAT, and centralized storage to align with enterprise infrastructure standards.
- **Technologies:** *Cisco Packet Tracer*

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

Personal Project, January 2025

- Developed a multi-wave data analytics and visualization project using South Africa’s National Income Dynamics Study (NIDS) to analyse household expenditure per capita as a proxy for socio-economic wellbeing.
- Built a scalable Python-based data pipeline to clean, validate, and harmonize survey data across five waves.
- Performed longitudinal analysis to track trends over time and uncover patterns of persistent inequality and uneven economic recovery.
- Produced clear, publication-ready visualizations to communicate insights effectively.
- **Technologies:** *Python, Pandas, NumPy, Matplotlib, Seaborn*

SKILLS

Programming Languages:

Java, C#, Python, C++

Backend & Frameworks:

[ASP.NET](#), Django (MVC/MVT, ORM, CRUD), Spring Boot

Databases & Data Engineering:

SQL, NoSQL, PostgreSQL, MongoDB, Data Modelling, Normalization, Query Optimization, ETL/ELT, Pipeline Design, Apache Kafka, Power BI

Tools & Platforms:

Oracle SQL Developer, Azure, Git/GitHub, Docker, PyTest

Areas of Interest:

Data Engineering, Software Engineering, Data Analytics, Business Intelligence

Soft Skills:

Collaboration, Problem-Solving, Communication

LANGUAGES

- Siswati (Native)
- English (Fluent)