

Nkosingiphile Xaba

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EDUCATION

University of Cape Town, Cape Town, South Africa

Bachelor of Science Specialising in Applied Statistics 03/2021 – 12/2024

Majors: Applied Statistics

Minors: Pure Mathematics

Other Relevant Completed Coursework: Applied Mathematics (1st year), computer science (1st year)

Memberships: chess society, gym society

Relevant Completed Coursework:

- Time series
- Analysis of variance and hypothesis testing
- Statistical theory and inference,
- Linear Algebra and advanced calculus
- Supervised and Unsupervised machine learning, Bayesian Statistics
- Neural networks
- Multivariate analysis,
- Operations research techniques,
- Data visualisation
- IT Architecture

PROFESSIONAL EXPERIENCE

Elixirr Digital AI Academy, Cape Town, South Africa

Participant

[24 /March/2025] – [25/April/2025]

Completed an intensive AI-focused training program, gaining hands-on experience in developing and deploying AI solutions using AWS, Python, and frameworks such as LangChain and Streamlit.

Developed proficiency in working with Large Language Models (LLMs) and prompt engineering to design and optimize AI-driven applications.

Collaborated on projects to build scalable AI models, integrating cloud-based tools and frameworks to streamline data processing and model deployment.

Enhanced technical skills in data science workflows, focusing on practical applications of AI in real-world scenarios.

PROJECTS

Data Intensive Research Initiative of South Africa (DIRISA) Student Datathon Challenge (SDC) Programme 2023

- With my team we were using Python libraries like Pandas, Numpy, Seaborn, and Matplotlib to analyse the youth unemployment dataset, we effectively uncovered patterns, anomalies, and key trends, laying the foundation for robust predictive models.
- Leveraging visualization tools and statistical analysis, we demonstrated a nuanced understanding of the dataset, facilitating informed decision-making during the subsequent predictive modelling phase. The seamless integration of these libraries not only enhanced data comprehension but also underscored the significance of thorough EDA (Exploratory Data Analysis) in the data science workflow.
- Applying machine learning algorithms, teams leveraged their insights from EDA to formulate accurate forecasts, contributing to the overarching goal of addressing youth unemployment challenges.
- During the presentation phase, the effectiveness of these models was communicated through compelling visualizations and concise explanations.

IIPSA SIGCyber Hackathon

- My team and I utilized Wireshark for anomaly detection and Nmap for identifying vulnerable open ports within our network.
 - Using Wireshark, we scrutinized network traffic for irregularities, while Nmap helped us pinpoint potential attack vectors.
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VOLUNTEERING

Statistics and Mathematics tutor at 123tutors: I was helping first year student with statistics and Maths that asked for help on the website.

Rochester House Tutor: I was helping students with MAM1000W and STA1000S courses at the residence I was staying in during my undergrad.

SKILLS & INTERESTS

Languages: English(fluent), IsiZulu (native)

Data Science and Development Stack:

- **Python** (Proficient), Sci-kit Learn (Proficient), Numpy (Proficient), Pandas (Proficient), Matplotlib (Proficient), seaborn (Proficient),
- **R** (Proficient),
- **Java** (Proficient),
- **SQL** (Proficient)
- **Tableau** (Proficient)
- **MS Excel for data analysis**

Soft Skills: Critical Thinking, Time management, Attention to Detail, Adaptability, Leadership, Decision-making, Communication, Problem solver.

Personal Interests:

- I enjoy going to the gym at least 5 times a week. I also enjoy running.

- I enjoy reading.
- I enjoy teaching matriculants mathematics.

