Moloko Mokgehle
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Professional Summary

Recent Mathematical Sciences graduate with Advanced Diploma (70% average) from Cape
Peninsula University of Technology. Proficient in Python, R, SQL, and Machine Learning;
led projects predicting student outcomes with XGBoost (top accuracy via F1-score) and
statistical quality control. Seeking data analysis/science internship to apply data
preprocessing, modeling, and visualization skills for impactful insights.

Professional Experience

Research Intern

Tamarind Hill Press, Newton Aycliffe, UK
July 2024 – December 2024

- Conducted qualitative literature synthesis and online research, producing detailed
  reports that improved data presentation clarity for project deliverables.
- Organized collaboratives data workflows using Google Drive and Docs, enhancing
  team version control and efficiency.
- Managed references with Mendeley, ensuring accurate citations across 20+ sources
  for research outputs.

Volunteer University Application Assistant

Cape Town, South Africa
August 2024 – December 2024

- Guided 50+ high school students through university and NSFAS applications,
  overcoming resource gaps by developing mobile smartphone strategy at under
  equipped schools.
- Built Excel tracking system capturing student details, enabling 100% follow-up
  completion rates for funding.
- Supported multilingual learners across stations, boosting communication and
  teamwork in diverse settings.

Education

Advanced Diploma in Mathematical Sciences (70% average)

Cape Peninsula University of Technology, Bellville, South Africa
Completed 2025

- Key coursework: Mathematical modelling, numerical analysis, machine learning.

Diploma in Mathematical Sciences (67% average)

Cape Peninsula University of Technology, Bellville, South Africa
Completed 2024

- Major: Mathematics, Physics, Probability & Statistics.

National Senior Certificate (Bachelor's pass)

Mathew Phosa Secondary School, Polokwane, South Africa
Completed 2020

- Stream: Mathematics and Physics.

Research Projects

Student Completion Time Prediction (Machine Learning)

- Performed exploratory data analysis on Diploma student data using Python (Pandas, NumPy, Matplotlib, Seaborn); built Logistic Regression, Random Forest, XGBoost models to identify at-risk students at enrollment.
- Applied preprocessing (KNN Imputation, SMOTE balancing, RFE selection), achieving top XGBoost performance via accuracy. F1-score, and confusion matrices for early interventions.

Statistical Quality Control in SA Drug Manufacturing

- Analyzed process stability with R/Excel control charts, logistic regression, ANOVA, validated data for regulatory compliance insights.

Presentations

- Mathematical Science Department seminar, CPUT (May 2024, Nov 2024, Nov 2025)
- Conference Seminar, Tamarind Hill Press (Oct 2024)

Skills

- Programming: Python (Pandas, NumPy, scikit-learn, Matplotlib, Seaborn), R, MATLAB, SAS, SQL, Jupyter, VS-Code.
- Data/ML: Preprocessing, feature engineering, classification/regression, visualizations, statistical modeling.
- Tools: Excel, LaTeX, Office 365, Google Workspace, Mendeley.
- Soft: Problem-solving, teamwork, communication (Sepedi HL, English).

Certification & Awards

- Certificate of Participation: African Conference for Industrial & Applied Mathematics (2024).
- Top Learner Award: Mathematics, Mathew Phosa Secondary School (2018-2020).

References

Ms. Kemone Brown, Tamarind Hill Press: +44 7982 909037, info@tamarindhillpress.co.za

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Mr. Tlou Molele, Ignite-Funza Edu-Sol: +27 76 373 5881, Ignite-Funza@gmail.com