

Simamkele Xipu

Data Analyst | Aspiring Credit Risk Analyst | Aspiring Quantitative Analyst |

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Professional Profile

Data Analyst with 2+ years of experience applying quantitative analysis, statistical techniques, and machine learning to solve complex business problems. Skilled in SQL, Python, Power BI, and data modelling, with a strong interest in credit risk, predictive analytics, and quantitative modelling.

Core Skills

Technical Skills

SQL (Joins, CTEs, Window Functions, Aggregations, Query Optimization), Python (Pandas, NumPy, Scikit-learn, Matplotlib), Advanced Microsoft Excel, Power BI, Alteryx

Quantitative & Statistical Skills (Statistical Analysis, Probability & Statistics, Hypothesis Testing, Regression Analysis, Predictive Modelling, Feature Engineering Data Validation & Reconciliation Exploratory Data Analysis (EDA))

Risk & Financial Analytics (Credit Risk Analytics, Fraud Analytics Revenue Analytics Financial Data Analysis)

Data Engineering & ETL (ETL Development, Data Integration, Data Transformation, Data Cleaning, Data Quality Assessment Data Modelling)

Machine Learning (Supervised Learning, Classification, Regression, Decision Trees, Random Forest, Logistic Regression, Model Evaluation (Accuracy, Precision, Recall, F1-Score, ROC-AUC), Cross-Validation, Scikit-learn, Explainable AI(XAI))

Professional Skills (Problem Solving, Critical Thinking, Stakeholder Management Communication & Presentation Team Player Process Improvement)

Data Analyst – Auditor-General South Africa (2024 – Present)

Responsible for providing assurance by developing and streamlining audit and risk data reports, visualizations and analytical fraud tests. Knowledge of Revenue, billing, procurement, debtors, valuation, and tariff processes and analytical assurance procedures.

Systems: RMS, SOLAR, BAS, PERSAL, LOGIS and MUNSOFT

Research Intern – Theoretical & Computational Physics

National Institute for Theoretical and Computational Sciences (NITheCS) /Nelson Mandela University (December 2022 – April 2023)

Conducted research on the physics of core-collapse supernovae using analytical and computational modelling techniques.

Developed Python-based numerical simulations by implementing the fourth-order Runge-Kutta (RK4) method and derived Sedov-Taylor solutions to model blast-wave dynamics.

Evaluated model performance by comparing analytical and numerical results to validate simulation accuracy.

Collaborated with researchers on computational astrophysics and scientific modelling, contributing to the successful publication of a research report documenting the methodology, simulations, and key findings.

Projects

Revenue Analytics & Data Quality

Fraud Analytics & Risk Assessment

Data Validation & Financial Reporting

Business Intelligence & Executive Dashboards

Connecting Quarks with the Cosmos, Connecting People with the Universe – Physics of Core-collapse Supernovae (Internship-Nithecs)

Credit Risk Explainable AI Research (Academic)

Machine Learning Classification Models

EDUCATION

MSc in e-Science Data Science – University of Witwatersrand (In Progress)

Conducting research into machine learning credit risk models using Explainable AI (SHAP and LIME)

BSc Honors in Physics – University of Johannesburg

BSc in Mathematics, Computer Science, Physics – University of Fort Hare

References are available upon request