UNARINE TIMOTHY TSHIMAUSWU

Data Scientist | Machine Learning | Cloud Solutions
Gauteng, South Africa | 082 580 4035 | email: timothytshimauswu@gmail.com
LinkedIn: Unarine Tshimauswu | Portfolio: Timothy Tshimauswu

PROFESSIONAL SUMMARY

Data Scientist and Business Analytics professional with 3+ years of experience delivering predictive models, risk analytics, and BI solutions across banking, financial services, and large-scale manufacturing. Strong background in Python, SQL, Microsoft Azure, SAS, and Power BI, with proven delivery of R53M+ in cost savings, operational optimization, and decision automation. Experienced in end-to-end analytics pipelines, stakeholder-driven reporting, and production-grade ML systems. Seeking data analytics, Data Scientist, ML Engineer, and Business Intelligence roles in Banking, finance, and Operations.

CORE COMPETENCIES

- **Analytics & Statistics:** Predictive Modeling | Statistical Inference | A/B Testing | Time-Series Analysis | Regression Analysis | Hypothesis Testing
- **Programming & BI:** Python | SQL | SAS | R | Power BI | DAX | Tableau | Excel
- **Machine Learning:** Classification | Regression | Feature Engineering | Model Validation | XGBoost | scikit-learn | Model Monitoring
- **Data & Cloud:** ETL Pipelines | SQL Server | AWS (SageMaker, Glue, Lambda) | Azure Data Factory | Data Governance | Databricks
- **Soft Skills:** Project Management | Business Acumen | Stakeholder Engagement | Cross-Functional Collaboration |Problem Solving

PROFESSIONAL EXPERIENCE

Financial Data Analyst | Ruach Consulting Solutions | Pretoria, Gauteng
December 2024 - Present

- Built automated ETL pipelines using SQL and Power Query processing 50,000+ monthly transactions, reducing manual reporting effort by 50% while improving data accuracy from 87% to 98%
- Developed 12 Power BI dashboards with DAX calculations for cash flow monitoring, expenditure tracking, and funding performance across 15+ donor streams
- Conducted variance analysis on R4.5M expenditure data identifying budget leakages, delivered recommendations achieving 5% annual cost reduction (R150K savings)

Process Engineer (Operations Data Analyst) | ArcelorMittal South Africa | Vereeniging, Gauteng
March 2022 - November 2024

- Built an Azure data engineering pipeline analyzing 250,000+ production records monthly. Delivered R38M in operating profit through bottleneck analysis, achieving 8% throughput increase and 5% downtime reduction
- Analyzed 5 years of customer complaint data using time-series analysis, identifying equipment failure patterns that saved R30M+ customer account
- Built quantitative optimization models analyzing energy consumption for a 1.8M tonne/year plant, achieving R15M annual cost savings
- Collaborated with 5 cross-functional teams, defining 40+ KPIs, establishing model monitoring frameworks, and data governance protocols, ensuring 95%+ data quality

Graduate Engineer | ArcelorMittal South Africa | Vereeniging, Gauteng
March 2020 - February 2022

- Analyzed 180,000+ production data points using SQL, Python, and Excel supporting throughput improvements of 8% (40,320 additional tons annually)
- Performed product defect and process-variation analysis on 35,000+ quality records using statistical methods (ANOVA, control charts), contributing to 10% reduction in customer complaints
- Conducted process control analytics on 50,000+ equipment records implementing risk-based maintenance strategies leading to R38M mechanical-loss savings over 18 months

KEY ANALYTICS PROJECTS

Credit Default Risk Management System| project link
Python | SQL | SAS | XGBoost | FastAPI | Streamlit | Power BI | AWS

- **Business Problem:** Bank needed scalable credit scoring system to reduce default rates and optimize lending decisions
- **Approach:** Developed XGBoost classification model analyzing 1M+ loan applications with 45 engineered features achieving 87% precision and 82% recall
- **Outcome:** Built production-ready FastAPI scoring service processing 500+ requests/second with sub-2-second latency deployed on AWS through Docker container, projected 15% bad debt reduction

ArcelorMittal Production Analytics & Azure Pipeline| project link
Python | Azure Data Factory | SQL Server | Power BI | Statistical Analysis

- **Business Problem:** 504,000 tonne/year steel plant missing production targets with no visibility into equipment-level bottlenecks
- **Approach:** Built Azure data engineering solution with automated ETL (Data Factory → SQL Server), synthetic cycle time modeling, and statistical bottleneck analysis on 80,000+ downtime events and Tempo Analysis on Power BI
- **Outcome:** Delivered R38M in operating profit: identified 6 critical constraints, achieved 8% throughput increase, 5% downtime reduction, enabled first-ever 40kt/month production

Customer Segmentation & Marketing Personalization| project link
Python | SQL | PCA | K-Means | Decision Trees | Streamlit

- **Business Problem:** Inefficient mass marketing campaigns requiring data-driven customer segmentation for personalized product offerings
- **Approach:** Applied PCA for dimensionality reduction on over 250,000 customers, reducing from 22 to 8 features while maintaining 85% variance. Implemented K-Means clustering with a silhouette score of 0.68. Deployed a Streamlit app for real-time credit risk scoring for credit teams.
- **Outcome:** Identified 5 actionable segments with 92% prediction accuracy, projected 25% cross-sell improvement and 15% marketing cost reduction

FNB Customer Churn Prediction & Retention Analytics| project link
Python | XGBoost | Power BI | Statistical Analysis | CLV Modeling

- **Business Problem:** FNB Bank 20.4% annual customer churn with no predictive visibility into high-risk customers or revenue exposure quantification
- **Approach:** Built an XGBoost classification model with over 10,000 customers across 43 features, achieving 84% accuracy. Developed a composite risk scoring system combining age, product complexity, and engagement patterns. Created two executive dashboards for portfolio analysis for stakeholders.
- **Outcome:** Quantified R578.5M in at-risk CLV, achieved 1.72x targeting lift vs random selection, designed 5-pillar retention strategy projecting 1,604% ROI

EDUCATION

Post Graduate Diploma in Data Science (Cum Laude) | University of Witwatersrand | 2025
Specialization: Machine Learning, Statistical Modeling, Programming (Python, R), Mathematical Foundations

BEng (Hons): Industrial and Systems Engineering | University of Pretoria | 2023
Specialization: Enterprise Engineering, Optimization, Manufacturing Planning & Control

BEng: Metallurgical Engineering | University of Pretoria | 2019
Specialization: Process Control, Python Programming, Statistical Analysis

References available upon request