

DUMISANI M. MUKUCHURA

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PROFESSIONAL SUMMARY

A versatile Data Analyst and certified Data Scientist with a career foundation in Telecommunications Engineering. Over 2+ years of applied data science experience in technical and business environments—combining rigorous training with hands-on corporate analyses. Skilled in Python, SQL, and end-to-end data pipelines—from ETL to predictive modeling, creating interactive dashboards, APIs and communicating insights to technical and non-technical stakeholders. Completed 8 end-to-end data science projects at WorldQuant University, including time-series forecasting, customer segmentation, and regression-based predictions, ensemble learning techniques, A/B Tests and ethical AI practices. Adept at bridging engineering expertise with data-driven decision-making to solve complex business problems.

TECHNICAL SKILLS & CORE COMPETENCIES

- **Tools & Platforms:** Git/GitHub, Linux CLI, Jupyter Notebook, VSCode, MySQL, Excel, PowerBI, Tableau
- **Languages & Databases:** Python, SQL, NoSQL; MongoDB, SQLite, MySQL
- **Libraries & Frameworks:** Pandas, NumPy, Scikit-learn, Statsmodels, Matplotlib, Seaborn, Plotly, Dash, imbalanced-learn, FastAPI, Pydantic, Google Workspace.
- **Data Visualization & Dashboards:** Matplotlib, Seaborn, Plotly Express, Plotly Dash, IPyWidgets
- **Machine Learning Models & Concepts:** Linear & Logistic Regression, Ridge, Decision Trees, Random Forest, Gradient Boosting, K-Means Clustering, Time-Series (ARMA, GARCH); Classification, Clustering, A/B Testing, PCA, Exploratory Data Analysis (EDA), statistical inference, Python scripting, custom ETL classes, API integration, Data Ethics and Bias Mitigation.

WORK EXPERIENCE

Corporate Solutions Implementation Engineer

TelOne Pvt Ltd, Zimbabwe | Mar 2022 - Present

- Designed and deployed network solutions (Internet, VPN, VoIP) to support enterprise-grade connectivity across 20+ client sites in multiple domains; government, hospitality, mining and banking and finance, translating business requirements into technical specifications.
- Enhanced cybersecurity protocols by analyzing Call Detail Records (CDRs) using Python and Excel to identify and report potential security threats of calls that may occur outside of busy hours.
- Spearheaded a data literacy initiative by conducting a Python data analysis workshop for 4+ Risk Assurance personnel the Risk department, focusing on practical techniques, data privacy, and mitigating bias.
- Improved departmental efficiency by mapping and optimizing the procurement cycle workflow and building templates for multiple departmental workflows saving on average 1 hour per each working day.

Technical Audit & Network Optimization Intern

NetOne Pvt Ltd, Zimbabwe | Aug 2019 – Oct 2020

- Developed and implemented a Data Capturing System for Technical Audits, increasing efficiency by approximately 70% during the Beta Phase.
- Authored “Fuel Consumed vs Revenue Generated” reports, guiding resource allocation for 90+ base stations.
- Acquired expertise in 2G (GSM), 3G (UMTS), and 4G (LTE) Radio Network elements, and their optimization.
- Performed Network Drive Tests, analyzing Call flows/traces as per Key Performance Indicators and statistics.
- Developed network performance reports using excel and presented insights using PowerPoint slides.

DATA SCIENCE AND ANALYTICS PROJECTS

Self-Initiated Projects:

- **Tech Layoffs Analysis with MySQL:** Cleaned and standardized a raw tech layoffs dataset using SQL—resolving nulls, duplicates, and inconsistencies. Performed end-to-end exploratory analysis using aggregations, joins, and window functions to uncover trends across time, geography, company stage, and industry.
- **CycleSilicon HR Analytics in Excel:** Created and analyzed a synthetic employee dataset for a fictional tech-bike company. Cleaned and preprocessed data in Excel, then built a dynamic HR dashboard using PivotTables, Power Pivot, DAX, and interactive visuals. Explored salary trends, bike ownership, and wellness impacts with reproducible, decision-ready insights.

WorldQuant University – Applied Data Science Lab Projects: (8 graded projects)

- **Volatility Forecasting in India:** Retrieved stock data via AP, developed a GARCH time-series model to predict asset volatility. Built a custom API with FastAPI to acquire, clean, store (SQLite), and serve model predictions.
- **A/B Testing Analysis at WQU:** Conducted a chi-square test to measure the impact of an email campaign on university enrollment. Implemented a 3-tiered ETL process using custom Python classes and deployed interactive data app following 3-tier design.
- **Customer Segmentation in the US:** Built a k-means clustering model to segment consumers. Utilized Principal Component Analysis (PCA) for visualization and created an interactive dashboard with Plotly Dash.
- **Bankruptcy Prediction in Poland:** Engineered Random Forest and Gradient Boosting models to predict corporate bankruptcy, addressing highly imbalanced data through advanced resampling techniques and evaluated precision-recall tradeoffs.
- **Earthquake Damage Assessment in Nepal:** Constructed Logistic Regression and Decision Tree models to predict building damage, extracting data from a SQLite database and analyzing model bias.
- **Air Quality Forecasting in Nairobi:** Built and tuned an ARMA time-series model to predict particulate matter PM_{2.5} levels, extracting data from a MongoDB database using Pymongo and tuned model hyper parameters.
- **Apartment Price Prediction in Buenos Aires:** Developed a linear regression model to predict apartment prices. Created a robust data pipeline to handle missing values and perform feature engineering.
- **Housing in Mexico:** Cleaned 21,000-property dataset; built visualizations; correlated price vs. size/location.

EDUCATION AND CERTIFICATIONS

- Applied Data Science Lab Certificate | **WorldQuant University** — May 2025
- Master of Business Administration (MBA) | **Unicaf in partnership with University of East London** — (In Progress - Class of 2025)
- B.Eng. (Hons) Degree in Telecommunications Engineering (1st Class - Distinction) | **National University of Science and Technology in collaboration with TelOne Centre for Learning** — 2021
- Forward Program tailored to upskill problem solving and influential communication skills. | **McKinsey** — 2023
- Data Analyst Nanodegree | **Udacity / ALX-T** — 2022
- Data Analyst with Python | **Datacamp** — 2022

ADDITIONALS

- **Languages:** English (Fluent), Shona (Native)
- **Portfolio:** <https://datascienceportfol.io/dumisanimukuchura>
- **Affiliations:** The Zimbabwe Institution of Engineers (ZIE) Member - ZIE197858, Huawei Seeds for the Future.
- **Articles:** Authored technical posts and blogs under [BYNDform](#)
- **Volunteering:** Mentor for ALX Foundations and AI Career Essentials candidates at ALX.
- **Currently Learning:** Deep Learning for Computer Vision with WorldQuant University.

REFERENCES

1. **Sharai Paula Theresa Dube** | *Head SME Business, TelOne Pvt Ltd, formerly General Manager, TCFL.*

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2. **Mrs. Grace Nkala** | *Technical Auditor, NetOne Cellular Pvt Ltd*

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