Derrick Lubanga

DATA SCIENTIST

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Summary

Data Scientist with 3+ years of experience delivering trusted analytics and machine learning solutions across healthcare, public sector, and insurance domains. Proven ability to drive social impact through inclusive technology, public policy analytics, and stakeholder engagement. Skilled in designing scalable data quality frameworks and predictive models that support evidence-based decision-making in complex environments.

Experience

Junior Data Scientist
iLab Africa, Strathmore University – Nairobi, Kenya   **July 2025 – Present**

- Developing **statistical models** and **data validation frameworks** to forecast poultry population and production for the Kenya Livestock Masterplan, ensuring **data accuracy** and **consistency** across multiple data sources
- Designing **automated data pipelines** for IMARIKA LoRaWAN sensors with **built-in validation checks**, enabling Power BI visualizations and weather forecasting with Neural GCM to support **data-driven decision-making** for farmers.
- Implementing **data quality monitoring** mechanisms to ensure sensor data integrity and automated anomaly detection

Design Thinking Innovator (Hybrid)
SUGAR Network for Design Innovation – Potsdam, Germany   **Dec 2024 – June 2025**

- Facilitated 5+ stakeholder workshops across Africa and Europe to design cross-functional innovation strategies.
- Supported the integration of a Kenyan institutions into the SUGAR network through academic-industry collaboration models.
- Translated technical requirements into actionable solutions for non-technical stakeholders

Data Science Research Scholar
iLab Africa, Strathmore University – Nairobi, Kenya   **May 2023 – June 2025**

- **Designed and implemented comprehensive data quality frameworks** including automated validation rules, **data quality KPIs**, and **monitoring mechanisms** for healthcare and insurance datasets.
- Engineered **real-time data validation pipelines** using Apache Kafka, Spark Streaming, and SQL with **automated quality checks** at critical points in the data lifecycle, achieving sub-5-minute response to data anomalies.
- Developed and deployed an interactive Power BI dashboard with embedded data quality controls, prominently showcased during the Kenya–EU Economic Partnership Agreement forum, ensuring trusted data for stakeholder decision-making.
- Collaborated with data stewards and domain experts to establish data governance policies and master data management practices for hospital review systems.
- Conducted **sentiment and thematic analysis** of thousands of hospital reviews using **NLP libraries** (spaCy, NLTK, BERT), implementing **data validation rules** to ensure review authenticity and quality.
- Developed predictive models using statistical, optimization, and ML regression techniques to predict inventory reorder points, minimizing overstocking, stockouts, and overall costs

- Embedded data quality controls into predictive modeling pipelines using statistical, optimization, and ML regression techniques, ensuring data consistency and accuracy in inventory reorder point predictions.
- Developed time series forecasting models using **ARIMA, XGBoost, and Prophet** to predict revenue trends and customer behaviors, improving financial planning accuracy by 15%.
- Conducted geospatial data quality assessment using GeoPandas, Pandas, and Folium, implementing validation frameworks to ensure location data accuracy for healthcare infrastructure mapping.
- Conducted hands-on training in machine learning, statistics, and data science for students and professionals, contributing to the expansion of Kenya's local AI talent pipeline.

Data Analyst Intern
Meru County Government – Meru, Kenya   **May 2022 – Oct 2022**

- Analyzed procurement and electronics consumption data using **Pandas**, **Power BI**, and **SQL**, producing reports that influenced strategic budget reallocations across county departments.
- Developed automated data cleaning and validation scripts in Python, creating reusable data quality processes and documentation for multiple departmental datasets.
- Designed and presented interactive dashboards for key stakeholders to support evidence-based policy planning.
- Installed, updated, and troubleshot computer hardware and software for various departments, maintaining digital infrastructure uptime at 98%.

Data Science Research Assistant
CNEAT Research Academy – Meru, Kenya   **Oct 2020 – Apr 2022**

- Led inclusive technology initiatives that empowered 60+ students with physical disabilities through hands-on training in screen readers and accessibility software.
- Conducted field studies on the use of **assistive technologies** in education, collecting data using custom **Google Forms** and mobile-optimized questionnaires.
- Cleaned and analyzed data using **Excel** and **Python**, helping NGOs tailor inclusive learning programs for students with physical disabilities.
- Diagnosed and resolved 75+ hardware and software malfunctions, including printers and assistive tech, minimizing disruptions to research activities and maintaining 99% operational uptime for critical projects.
- Collaborated with educators, NGOs, and researchers to promote equitable access to education through data-driven advocacy and stakeholder alignment.
- Pioneered the integration of assistive technology tools within School's curriculum, resulting in a 95% satisfaction rate among students with disabilities using these resources, a key success metric.

Digital Support Associate
Kenya Methodist University – Meru, Kenya   **Sep 2019 – Nov 2022**

- Developed websites and internal tools using **HTML, CSS, JavaScript**, and WordPress.
- Managed IT support for students and staff, including device setups and software upgrades.
- Boosted club engagement by 20% through social media analytics and content management.

Education

Strathmore University, MSc Data Science And Analytics

Major: Data Science | Minor: Computational Statistics

Thesis: *Developing Predictive Analytics for ABC-VEN Inventory management in Kenyan Hospitals*

Kenya Methodist University, Bs Mathematics and Computer Science

Major: Mathematics | Minor: Computer Science

Skills & abilities

- **Languages/Tools:** Python, SQL, Power BI, Tableau, HTML/CSS, Git, Jupyter
- **ML & AI:** TensorFlow, PyTorch, Scikit-learn, Keras, XGBoost, Random Forest, CNNs, RNNs, AdaBoost
- **NLP & LLMs:** Chatbot Development, Sentiment & Thematic Analysis, LLM Fine-tuning, Text Mining
- **Data Engineering:** Apache Kafka, Apache Spark, SSIS, MS SQL Server, ETL Pipelines, Google BigQuery
- **Visualization:** Matplotlib, Seaborn, Plotly, Power BI, Tableau
- Data Quality Frameworks , Automated Validation Systems , Data Governance , Master Data Management
- **Soft Skills:** Communication, Design Thinking, Team Collaboration, Stakeholder Engagement, Research, Leadership & Impact

References

Prof. Falk Uebernickel – Design Thinking Professor @ HPI – falk.uebernickel@unisg.ch

Betsy Muriithi – Research Fellow, iLab Africa – bmuriithi@strathmore.edu

Dr. Amos Chege – Lecturer & Mentor – dramoschege@gmail.com