

# Jackrony Karani Riungu

## Data Scientist | Data Analyst | Python Developer



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### Professional Summary

Analytically driven Data Scientist with over 3 years of hands-on experience in data collection, processing, analysis, and automation, including impactful work at the Kenya Revenue Authority (KRA) and Sigma Research Agency. Adept at building end-to-end data pipelines, designing predictive models, and developing interactive dashboards using Python, SQL, Power BI, and Streamlit. Possess a strong academic foundation with a BSc in Actuarial Science and Data Science and currently pursuing a Master's in Financial Engineering, with focus on machine learning, deep learning, and quantitative analytics. Passionate about transforming complex datasets into actionable insights, continuously updating skills in advanced analytics and AI, and delivering data-driven solutions that enhance operational efficiency, revenue growth, and strategic decision-making.

### Skills

#### Technical Skills

- DS - Python, R, SQL, Advanced Excel, Exploratory Data Analysis (EDA), Feature Engineering, Model Evaluation & Performance Metrics
- ML - Supervised & Unsupervised Learning, Classification & Regression, NLP (Text Cleaning, Sentiment Analysis), Statistical Testing, Forecasting, Optimization Techniques
- Data Engineering & ETL - ETL Pipeline Design, Data Cleaning & Validation, Data Quality Checks, Automated Anomaly Detection, Workflow Automation
- DB - PostgreSQL, MySQL, MongoDB, SQL Joins, CTEs, Window Functions
- Visualisation - Power BI (Dashboards, DAX, KPI Tracking), Matplotlib, Seaborn, Executive & Operational Reporting

- Deployment & Tools - Streamlit (Analytical Apps), Flask, Django, Docker (Basics), AWS (Foundational), Version Control (Git)

#### Soft Skills

- Ethical AI & Fairness: Bias detection, model transparency, explainability frameworks
- Collaboration & Mentorship: Experience engaging multidisciplinary teams across ICT and finance domains
- Communication: Strong storytelling, visualization, and stakeholder engagement skills
- Innovation & Continuous Learning: Deep enthusiasm for AI, automation, and emerging data technologies

### Professional Experience

#### Information Technology Assistant | Jan 2022 – Jan 2025

Kenya Revenue Authority (KRA)

- Designed and deployed **automated data pipelines** using Python and Power BI to track SLA compliance and ICT performance metrics, significantly improving reporting accuracy and timeliness across departments.
- Built **interactive executive dashboards** supporting Monitoring & Evaluation (M&E) of ICT work plans, enabling leadership to make **data-driven strategic and investment decisions**.
- Partnered with cross-functional stakeholders to **define KPIs**, conduct policy reviews, and align operational metrics with organizational ICT strategy.
- Led **SLA data analysis and vendor performance reviews**, synthesizing operational data to optimize service delivery and ensure contractual compliance.
- Reviewed, validated, and reconciled **vendor invoices against SLA performance data**, strengthening financial controls and accountability.
- Contributed analytical insights and performance summaries to **strategic planning documents and executive reviews**, influencing prioritization of ICT initiatives and resource allocation.

**Attachee | Sep 2021 - Dec 2021**

*Kenya Revenue Authority (KRA)*

- Conducted **technology landscape analysis** to assess emerging tools and platforms, evaluating suitability, scalability, and alignment with enterprise strategy.
- Supported development of **technology roadmaps** by translating business objectives into structured technical and data capability requirements.
- Assisted in **technology evaluation and selection processes**, applying analytical frameworks to compare options and inform decision-making.

**Data Analyst | July 2019 - Aug 2021**

*Sigma Research Agency*

- Performed **end-to-end data analysis** across public health and education projects, combining quantitative surveys, qualitative interviews, and secondary data sources.
  - Cleaned, transformed, and analyzed **multi-source datasets**, applying statistical techniques to uncover patterns, risks, and impact drivers.
  - Developed **Power BI dashboards and analytical reports** for NGO and donor stakeholders, translating complex findings into **clear, actionable recommendations**.
  - Delivered insights that informed **program design, monitoring, and resource allocation** for donor-funded initiatives.
  - Contributed to internal **research toolkits, methodologies, and sector scans**, strengthening organizational analytics capability and knowledge reuse.
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## Education

**Master's in Financial Engineering | WorldQuant University | 2024 – 2026 (ongoing)**

- Focused on **Advanced Machine Learning, Deep Learning, Risk Analytics, and Quantitative Finance**, blending technical and financial modeling to deliver **data-driven decision systems**.
- Applied predictive modeling, algorithmic analysis, and portfolio optimization in real-world financial datasets..

**Bachelor of Science in Actuarial Science & Data Science | Kirinyaga University | 2017 – 2021**

- Graduated First Class Honors; Valedictorian of 2021.
- Specialized in statistical modeling, risk analysis, and financial mathematics, achieving top performance in quantitative courses

**Kenya Certificate of Secondary Education (KCSE) | Burieruri Boys High School | 2012 – 2016**

- Achieved a mean grade of **A-** (75 points).

## Professional Training & Certifications

**Data Science Program | ALX & Explore AI Academy | May 2023 – Jul 2024**

- Completed a comprehensive program covering Python, data wrangling, statistics, machine learning, and visualization.
- Delivered multiple real-world projects in predictive modeling, automation, and interactive dashboards, strengthening applied analytics expertise

**Financial Modeling & Valuation Analyst (FMVA) | Corporate Finance Institute (CFI) | Jun 2022 – Dec 2022**

- Gained advanced financial modeling and valuation skills, including complex Excel and Power Query-based analysis.
- Built models supporting business strategy, investment decisions, and scenario analysis.

**Applied Data Science Lab | WorldQuant University | Jan 2024 – Dec 2024**

- Completed **8 end-to-end applied data science projects**, performing **data extraction, cleaning, feature engineering, and supervised/unsupervised modeling..**
- Key Skills Acquired:
  - **Data manipulation & analysis** with Pandas
  - **Machine learning** using scikit-learn, imbalanced-learn, and statsmodels
  - **Data visualization** with Matplotlib, Seaborn, Plotly Express
  - **API development & deployment** with FastAPI and Unicorn
  - **Data extraction from SQL (SQLite), NoSQL (MongoDB), and flat files.**

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## Notable Projects

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### 1. Mapping Social Dynamics in Maji Ndogo – ***Power BI, Excel***

- Conducted **mixed-method research** on water access, gender roles, and crime in a simulated African town.
- Cleaned, integrated, and visualized multi-source datasets to produce an **interactive storytelling dashboard**, providing actionable insights for social planners and policymakers [View Details](#)

### 2. SLA & Invoice Automation Pipeline – ***Power BI, Python, SQL***

- Designed and deployed a **fully automated data pipeline** for SLA and invoice tracking at KRA, reducing manual processing time by **50%**.
- Developed **real-time dashboards** for operational visibility and decision support, improving SLA compliance and departmental reporting [View Details](#)

### 3. Nepal Earthquake Severity Prediction – ***Python (scikit-learn), Pandas, Matplotlib***

- Led a **machine learning project** predicting disaster damage severity using structured data.
- Built, validated, and visualized predictive models to support **emergency resource allocation** and policy planning for NGOs [View Details](#)

### 4. Bankruptcy Prediction Tool – ***Python, Streamlit, XGBoost***

- Built a **financial distress prediction system** for companies, integrating ML models with a **Streamlit app and dashboards** for real-time analysis.
- Enabled **risk assessment and decision-making** for startups, investors, and policy evaluation contexts [View Details](#).

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## Referees

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<b>Ms. Faith Mumbua</b> <i>Business Analyst,</i> <b>KRA</b> P.O Box 30677 Nairobi Tel: 0700068475 Email: <a href="mailto:faith.mutinda@kra.go.ke">faith.mutinda@kra.go.ke</a>	<b>Mr. Peter Maina Chege</b> <b>CEO,</b> <b>Sigma Research Agency</b> P.O Box 240,01001 Kalimoni Tel: 0741687297 Email: <a href="mailto:rscfirm20@gmail.com">rscfirm20@gmail.com</a>	<b>Mr Jerome Muiruri</b> <b>Assistance Manager,</b> <b>KRA</b> P.O Box 30677 Nairobi Tell: 0722 727108 Email: <a href="mailto:jerome.c.muiruri@kra.go.ke">jerome.c.muiruri@kra.go.ke</a>
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