

ISAAC KURIA

Data Scientist · Machine Learning Engineer · Computer Vision Researcher

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PROFILE

Commonwealth Scholar and MSc Data Science candidate (Robert Gordon University) with 10+ years of experience in IT systems and data operations within safety-critical aviation environments. Proven ability to design and deploy end-to-end machine learning solutions, from clinical cancer detection tools to NLP pipelines and computer vision systems with real-world, measurable impact. Seeking a Data Scientist, ML Engineer, or Data Analyst role where rigorous quantitative thinking translates directly into intelligent, scalable solutions.

TECHNICAL SKILLS

Programming & Query	Python, SQL, R, Java, C, C++
Machine Learning	Classification, Regression, Clustering, SVM, Random Forest, Decision Trees, KNN, Naïve Bayes, Ensemble Methods, Model Evaluation & Deployment
Deep Learning & CV	CNNs, BioMedBERT (Transformers), Image Preprocessing, Feature Extraction, OpenCV, SHAP Explainability
NLP	Fine-tuning Pre-trained Models, Text Classification, Chi-Square Feature Selection, Class Imbalance Handling
Data Engineering & ETL	ETL/ELT Pipelines, Data Ingestion, Transformation, Validation, Data Quality Checks, Auditing Concepts
Databases & Modelling	MySQL, Relational Modelling, Normalisation, OLAP, Data Warehouse Design & Implementation
Big Data	Hadoop, MapReduce, Pig Latin, Spark, Multi-dataset Processing
Data Analysis	EDA, Data Cleaning, Hypothesis Testing, Multivariate Analysis, Association Rules, Handling Imbalanced Data
Frameworks & Tools	Scikit-learn, TensorFlow, PyTorch, Streamlit, Flask, Jupyter, Power BI, Git, Excel, Kaggle, Markdown
Cloud & DevOps Basics	Jupyter Notebook, GitHub, CI/CD Concepts

EDUCATION

MSc Data Science

2025 – Present (Expected Sep 2026)

Robert Gordon University, Aberdeen, UK · Commonwealth Scholar

BSc (Hons) Computer Science

2019 – 2022

St Paul's University, Kenya · First Class Honours

Diploma in Computer Studies

2012 – 2014

Kenya National Youth Service Engineering Institute

KEY PROJECTS

DetectIQ — Breast Cancer Early Detection · Python · Scikit-learn · Streamlit · Healthcare AI

- Built an ML classification dashboard using the Wisconsin Breast Cancer Dataset; trained Logistic Regression, SVM, and Random Forest models to distinguish malignant from benign tumours.
- Deployed as a live Streamlit web application and a Clinical Officers on LinkedIn who noted it 'makes diagnosis faster.'
- Addresses a critical gap: survival rate is 99% with early detection vs. 26% when late the tool supports faster, more informed clinical decision-making. Live at breast-cancer-early-detection.streamlit.app

MediPublish NLP — Medical Text Classification · BioMedBERT · PyTorch · SHAP · Transformers

- Fine-tuned Microsoft BioMedBERT on 2.5M+ words of medical abstracts; achieved 82% accuracy classifying publications across 5 clinical departments (neoplasms, digestive, nervous, cardiovascular, pathological).
- Applied Chi-Square testing ($\chi^2=247.43$, $p=2.33e-52$) to identify 4,061 duplicate rows; used weighted cross-entropy loss to handle class imbalance and improve minority-class recall.
- SHAP explainability analysis identified 'osteosarcoma' as the top classifier for neoplasms, enabling transparent, auditable routing decisions.

Subsea Corrosion Detection · Computer Vision · CNN · OpenCV · Deep Learning

- Built a binary image classification pipeline detecting corrosion on underwater metallic structures, progressing from traditional ML to CNNs with precision, recall, and F1-score evaluation.
- Addressed a real safety challenge manual inspection of underwater infrastructure is costly, dangerous, and inconsistent.

Cardiac Ultrasound Classification · Medical Imaging · CNN · Deep Learning · Scikit-learn

- Developed a binary classifier detecting mitral valve state (open/closed) from cardiac ultrasound images using a published clinical dataset (Cervantes-Guzmán et al., 2023).
- Pipeline included grayscale conversion, resizing, binarisation, and progressive model complexity from traditional ML through CNNs.

PROFESSIONAL EXPERIENCE

IT Support Assistant · East African School of Aviation (KCAA) Nairobi, Kenya · Jan 2025 – Aug 2025

- Maintained enterprise IT systems across classrooms, labs, and administrative offices in a regulated aviation training environment.
- Executed system configuration, scheduled backups, patch updates, and data integrity checks, ensuring zero unplanned downtime during audit periods.
- Diagnosed and resolved infrastructure and application faults, directly supporting operational continuity for safety-critical aviation training.

Technical Support Specialist · Kenya Civil Aviation Authority (KCAA) Nairobi, Kenya · Feb 2015 – Dec 2024

- Delivered technical support for mission-critical systems across multiple departments over nearly a decade in a highly regulated, safety-critical environment.
- Managed databases, networked applications, and ICT security compliance, contributing to reliable data operations for an authority overseeing national airspace.
- Led system upgrades and data backup processes; collaborated with cross-functional teams to resolve incidents and drive measurable reliability improvements.

Freelance Data Science & IT Support Consultant · Self-Employed Remote · Jan 2017 – Oct 2026

- Provided remote and onsite IT support for individual and business clients, consistently diagnosing and resolving issues to reduce downtime and improve system stability.
- Installed, configured, and maintained computer systems, databases, and networks; built long-term client relationships through reliable service delivery.

VOLUNTEER EXPERIENCE

Sustainability Retail Assistant · GoGreen KEIM Shop, RGU Aberdeen, UK · Sep 2025 – Present

- Tracked inventory and sales data to support stock decisions and reporting, applying data skills in a practical retail context.

Community Engagement Support Assistant · Re-engage Volunteering Aberdeen, UK · Sep 2025 – Present

- Monitored participation data and feedback to support continuous improvement of services for isolated elderly community members.