

COSMUS KAVITHI MUTUKU

Nairobi, Kenya

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SENIOR BUSINESS ANALYST / DATA SCIENTIST & AI STRATEGY PROFESSIONAL

Analytical, innovation-driven professional with 5+ years' experience bridging business strategy, technology, and analytics across telecom, fintech, and enterprise IT ecosystems in the UK, Europe, and Africa. Expert in designing insight-driven, customer-centric, and fraud-resilient solutions through the use of data analytics, automation, and AI. Combines deep experience in **business analysis, data science, and project delivery** to translate complex requirements into actionable insights and scalable systems that improve decision-making, performance, and customer trust.

Proficient in Python, SQL, Power BI, and data modeling frameworks (Isolation Forest, LOF, SHAP, LIME). Adept at collaborating in Agile environments, leading data-driven initiatives, and ensuring alignment between business goals, technology solutions, and regulatory compliance.

CORE COMPETENCIES

- **Business Analysis & Strategy:** Requirements gathering, stakeholder engagement, process re-engineering, Agile & Waterfall delivery, user journey optimization, UAT & documentation.
- **Data Science & Analytics:** Predictive modeling, anomaly detection, data visualization (Power BI, Tableau), ETL design, KPI tracking, AI/ML model deployment.
- **Fraud Strategy & Risk Management:** Fraud rule optimization, control automation, risk audits, forensic analytics, behavioral profiling, loss prevention.
- **Project Management:** End-to-end project planning, PMO reporting, Agile sprint leadership, KPI measurement, governance & risk control, stakeholder alignment.
- **Business Intelligence & Insights:** Dashboard development, trend analysis, customer insight research, data storytelling, market foresight & performance analytics.
- **Technical Expertise:** Python, SQL, C#, Java, Spark, Hadoop, Docker, REST APIs, AWS, Azure, MySQL, NoSQL, Oracle, NLP & automation frameworks.

PROFESSIONAL EXPERIENCE

Business Analyst

EGA/Gridiron – UK & Europe | Jan 2020 – Present

- Led business and technical analysis for digital transformation and fraud control initiatives with telecom partners (including Virgin Media), ensuring alignment with compliance, customer experience, and performance KPIs.
- Developed data-driven fraud detection and prevention systems integrating behavioral, device, and transactional analytics — improving detection accuracy and customer trust.
- Built advanced Power BI dashboards and SQL pipelines for real-time KPI monitoring, anomaly detection, and process optimization.
- Collaborated with engineering and data science teams to integrate AI/ML models into fraud and risk management workflows.
- Defined and documented end-to-end requirements and solution designs for system upgrades, automation features, and fraud control enhancements.

- Conducted risk assessments, user acceptance testing (UAT), and stakeholder reviews to improve process integrity and customer experience.
 - Led automation of fraud case triage and resolution processes — reducing average response time and operational risk exposure.
 - Provided strategic insights into emerging fraud patterns and performance metrics that informed executive decision-making.
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Data Scientist (Anomaly Detection & Fraud Analytics)

Prospect 33 Global Data Lab | Jun 2024 – Dec 2024

- Designed and deployed AI/ML-based anomaly detection models (Isolation Forest, LOF, KNN) to identify suspicious financial activities across SaaS platforms.
 - Translated analytical findings into actionable business rules and data models for fraud prevention and predictive monitoring.
 - Applied Explainable AI (SHAP, LIME) for transparent and auditable model interpretation, improving stakeholder trust in AI outputs.
 - Partnered with Business Analysts and Product Managers to define use cases linking fraud insights to operational KPIs and business goals.
 - Delivered a fraud risk intelligence dashboard automating anomaly flagging and report generation for executive oversight.
 - Supported Agile sprints to integrate analytics outputs with business process automation tools.
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Volunteer Data Scientist (Risk & Community Insights)

Statistics Without Borders (SWB) | Dec 2022 – Jun 2024

- Supported NGOs with fraud risk assessment, data quality assurance, and operational performance analytics.
 - Developed predictive dashboards and KPIs identifying inefficiencies and potential control gaps in financial inclusion programs.
 - Translated complex datasets into visual and narrative insights supporting stakeholder decision-making and transparency.
 - Promoted ethical and data-driven decision-making for social impact organizations.
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Data Science Intern

Explore-AI – South Africa | Jun 2022 – Dec 2022

- Built ETL data pipelines automating ingestion and cleansing of structured/unstructured data for analytics and AI readiness.
- Developed NLP summarization models to extract insights from customer complaints, risk logs, and text-based data sources.
- Participated in Agile delivery cycles, ensuring alignment between data science prototypes and business requirements.
- Produced performance monitoring dashboards in Power BI for continuous improvement.

Data Scientist Apprentice

British Airways – UK | Feb 2019 – Apr 2020

- Conducted data-driven performance and anomaly analyses supporting operational efficiency and customer satisfaction initiatives.
- Built predictive dashboards identifying early warning signals for service disruptions and potential fraud risks.
- Applied A/B testing, hypothesis validation, and trend forecasting to improve service reliability and reduce irregularities.
- Presented insights to leadership teams, linking analytical findings to actionable business decisions.

EDUCATION

Higher Certificate in Data Science – Explore Data Science Academy, South Africa | 2022

BSc. Actuarial Science – Kenyatta University, Nairobi | 2015–2022

CERTIFICATIONS & PROFESSIONAL DEVELOPMENT

- Business Analysis Certification – Udemy (Meetul Patel)
- 100 Days of Code: Python Pro Bootcamp – Udemy (Dr. Angela Yu)
- The Complete Full-Stack Web Development Bootcamp – Udemy (Dr. Angela Yu)
- AI-Powered Engineer: Cursor the AI-First IDE – Micro1.ai (Udemy)
- Agile & Scrum Fundamentals – In Progress
- IIBA Certifications (ECBA™, CCBA®, CBAP®) – In Progress
- PMP and SAFe Project Management – In Progress

ADDITIONAL SKILLS

- Requirements Management (JIRA, Confluence, Trello)
- Business Process Mapping (BPMN, Lucidchart, Miro)
- Data Visualization (Power BI, Tableau, Excel)
- Predictive Analytics & Forecasting
- Data Engineering (ETL/ELT, API Integration)
- Risk Modeling & Statistical Analysis
- Report Automation & Executive Dashboards
- Cross-Functional Team Leadership
- Research Methodology & Insight Storytelling
- AI/ML Awareness for Predictive Analysis

- Agile Project Management (Scrum, Kanban)

REFERENCES

Available upon request