

JETHRO KIMANDE

Machine Learning Engineer | Data Researcher | DSP Expert

Nairobi, Kenya | ✉ jethro.kimande@gmail.com | ☎ +254715234118

🌐 [LinkedIn](#) | 💻 [GitHub](#) | 📄 [ResearchGate](#)

PROFILE

I am a highly motivated individual with a passion for data modeling and research and 5+ years of expertise in machine learning, IoT systems, and predictive modeling. Growing up in a developing country, I have had an opportunity to witness the impacts of relying on little to no data in making industrial and business decisions. I desire to assist in popularising emerging technologies and formulating new strategies that advance the prediction performance of machine learning algorithms in research and development.

EDUCATION

MSc. Nuclear Science (2017–2021) *University of Nairobi*

- **Thesis:** *Estimating the temperature variations in three-phase distribution transformers using infrared thermography*
 - Developed MATLAB algorithms to analyze thermograms, improving fault prediction accuracy by 25%.
 - Published a conference paper at the *3rd Annual Architecture & Engineering Conference (2020)*.
- **Relevant Coursework and Workshops:** Sensor Systems in Nuclear Applications, Advanced Statistics, Data Modeling.
 - **Optimization Onramp** by Mathworks, Nov 2022
 - Formulation of optimization problems in MATLAB Usage for linear and nonlinear optimization.
 - **Raspberry PI Microcomputer Training Workshop** on Real-Time Programming by University of Nairobi, Uppsala University and Delft University of Technology: Feb 2019
 - IoT and AI programming, the Raspberry Pi microprocessor system, handling big data from IoT devices and field actuators, Wi-Fi communication, and threading.
 - **Statistical Distribution in Particle Technology:** Graduate course by University of Nairobi and Uppsala University, June 2018
 - Learned normal, log-normal, Weibull, power law, beta distribution, gamma function, theory, and applications in aerosols. Visualization of distribution, estimation, and goodness of fit

BSc. Electrical & Electronic Engineering (2011–2016) *Dedan Kimathi University of Technology*

- **Project:** *Wildlife Monitoring and Data Acquisition Using Camera Traps and Raspberry Pi*
 - Built a real-time data streaming system with Kafka and TensorFlow and implemented a camera trap using Open CV and a Cascaded Haar classifier

PROFESSIONAL EXPERIENCE

Freelance Data Engineer (Fiverr | 2017–Present)

- **Dynamic Pricing Model:** Designed Python/Data bricks pipelines for real-time sales analysis, boosting client revenue by **18%** during peak demand.
- **Sentiment Analysis Model:** Built NLP tools (Python, NLTK) to process social media data, enhancing customer engagement strategies by **20%**.

ISP Network Engineer (Topnet Fibre | 2021–2023)

- Automated billing/SMS systems (Python, Twilio API), driving **60% subscriber growth**.

Technical Data Analyst (PwC | 2020–2021)

- Led a big-data analysis team during the valuation of Ethiopian Electrical Utility assets using the IVS-105 standards, delivering actionable insights on functional and physical degradation via Tableau dashboards.
- Developed a Flutter/Firebase app for real-time Ethiopian Electrical Utility electrical equipment and data collection.

TECHNICAL PROJECTS

Digital Signal Processing Portfolio (EEG Project) | April 2025 | [Fiverr](#)

- Analysed an EEG Signal for oddball paradigm in MATLAB.

Predictive Insights Portfolio | Jan 2025 | [GitHub](#)

- Built Supervised ML Models using Python, Scikit-learn, and TensorFlow.

Loan Default Prediction Model Portfolio | August 2024 | [Google Colab](#)

- Built Supervised ML Models using Python, pandas, scikit-learn, matplotlib/seaborn, logistic regression, decision trees, SVM, random forest, hyperparameter tuning (GridSearchCV), cross-validation, and ROC/AUC analysis.

IoT Auto Greenhouse (2019)

- Designed an Automated Indoor grow box using an IoT system for real-time grow condition monitoring, showcased at the Nairobi Trade Fair.

SKILLS

- **ML/AI:** TensorFlow, Spatiotemporal Modeling, Graph Neural Networks
- **Programming:** Python (Pandas, NumPy), MATLAB, SQL, R
- **Tools:** Databricks, Kafka, React Native, Firebase, Tableau
- **Domain:** Infrared Thermography, IoT Systems, Material Performance, Fault Analysis, Non-Destructive Testing

PUBLICATIONS

1. **“Application of Infrared Thermography in Preventive Maintenance in Three-Phase Distribution Transformers.”**
International Journal of Computer Applications (2021). DOI: 10.5120/ijca2021920995

AWARDS

- **Power Learn Project Fellow July 2025**
- **Master’s Scholarship**, Nuclear Power & Energy Agency (NuPEA).
- **Recognition for innovation in embedded systems and non-destructive testing at UON@50**, University of Nairobi (IoT Systems).

PROFESSIONAL AFFILIATIONS

- Engineers Board of Kenya | Non-Destructive Testing Society of Kenya

REFERENCES

1. Prof. Elijah Mwangi,
Professor of Engineering,
Director, Institute of Nuclear Science and Technology,
The University of Nairobi
Phone: +254725949898
Email: elijah.mwangi@uonbi.ac.ke
2. Prof. Ciira Wa Maina
Associate Professor,
Director, Center for Data Science and Artificial Intelligence (DSAIL),
Dedan Kimathi University of Technology
Phone: +254716196331
Email: cwamaina.dekut@gmail.com