

# Lwandiso Zwane

## Machine Learning Engineer

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🇿🇦 South African 📁 Portfolio 🌐 LinkedIn 🐙 GitHub 📝 Medium

### SKILLS

- Predictive Maintenance, Time-Series Forecasting, Anomaly Detection
- AWS (S3, Lambda, EC2, SageMaker, CloudFormation)
- Python, JavaScript, C
- RESTful APIs, GraphQL, WebSockets
- CNNs, LSTMs, Autoencoders, Random Forest, FFNN
- GCP (BigQuery, Cloud Run, Pub/Sub, Vertex AI)
- Frontend: React, Next.js, D3.js, React Native, HTML, CSS
- UI/UX, Figma
- Model Deployment: FastAPI, Flask, TensorFlow Serving
- Terraform, Kubernetes, Docker
- Backend: Django, FastAPI, Node.js, Express
- Pandas, NumPy, Scikit-learn
- CI/CD: GitHub Actions, Jenkins
- Databases: PostgreSQL, MySQL, MongoDB, Redis

### PROJECTS & EXPERIENCE

📌 **MK-001: AI-Powered Style & Outfit Generator, Technologies: React Native, Django, MySQL, A/B Testing Engine** Designed a fashion recommendation system empowering users to explore style without pressure. 📌

- Created a sandbox interface for outfit mixing and occasion-based generators.
- Built an A/B preference engine that learns taste through visual comparisons.
- Architected a modular backend for future integration of image embedding models.
- Focused on inclusion and self-expression as guiding UX principles.

📌 **Personalised Skincare Recommendation App, Technologies: Python, FFNN, Random Forest, FastAPI, React, PostgreSQL** AI-powered product recommender based on skin type, goals, and lifestyle. 📌

- Deployed real-time ML APIs using FastAPI and AWS Lambda.
  - Built intuitive frontend interface to guide user decisions.
- Optimized backend data flows for responsive UX and rapid model inference.

📌 **Predictive Maintenance System for Supply Chain Logistics Technologies: Python, LSTM, FastAPI, AWS Lambda, Terraform, React, D3.js,** Developed a time-series anomaly detection model to forecast equipment failure.

- Reduced logistics downtime by 35% through real-time alerts.
- Integrated with BigQuery for analytics and reporting.
- Delivered interactive dashboard with live fleet telemetry.
- #(Note) Still In Development

### COURSES

**Machine Learning/AI Engineer, Codecademy** 📌 08/2023 - 11/2023  
Machine Learning/AI Engineers build end-to-end ML applications and power many of the apps we use every day. They work in Python, Git, & ML.

Includes Python, Machine Learning, Software Engineering, Algorithms, Pandas, scikit-learn, Git, Bash, and more.

**Python (Introduction), scrimba** 📌 05/2021 - 05/2021  
Object-Oriented Programming (OOP)

**React Native (Introduction), Codecademy** 📌 08/2021 - 08/2021  
Native Modules, Cross-Platform Development, Expo, JavaScript Bridge, React Navigation, React Native CLI, Debugging Tools, Animations

**NodeJS (Introduction), Codecademy** 📌 11/2021 - 11/2021  
Here I learned about: Asynchronous programming, Event-driven architecture, Server-side JavaScript, RESTful API design, NPM package management, Express.js framework, and Microservices architecture.

**Cloud Computing for Machine Learning - IBM (Coursera, Audit Track), Coursera** 📌 02/2022 - 02/2022  
Completed course focused on deploying ML models using microservices, containers, and cloud-native tools. Gained hands-on experience through project work and course labs. (Certificate not issued - audit version completed)

**Fundamentals Of Digital Marketing, Google's Digital Skills for Africa** 📌 01/2022 - 05/2022  
SEO (Search Engine Optimization), SEM (Search Engine Marketing), PPC (Pay-per-Click), Social media marketing, Content marketing, Email marketing, Analytics, Conversion rate optimization, ROI (Return on Investment), Mobile optimization, Influencer marketing, Affiliate marketing, Marketing automation, Customer segmentation, A/B testing