

Daniel Iyalekhue

AI / ML Engineer | Software Engineer | Data Engineering and DevOps
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TECHNICAL PROFILE

Software engineer and applied AI/ML practitioner completing an MSc in Artificial Intelligence, working across the full delivery path from data ingestion and model development through to production APIs, user interfaces and automated deployment. Has shipped a production reporting pipeline drawing live data from three third-party APIs into FastAPI services, built containerised full-stack applications with Next.js, TypeScript, FastAPI and PostgreSQL, and delivered machine learning and NLP systems covering prediction, retrieval, explainability and evaluation. Comfortable owning a problem end to end, from requirements and data through to a deployed, documented and monitored system. Co-founder of four ventures, three of them operating businesses, with a track record of delivering to fixed deadlines under resource constraints.

PROFESSIONAL EXPERIENCE

AI / ML Engineer, Carril Agency | Dubai, UAE (Remote)

Sep 2024 - Present

- Built an AI reporting automation pipeline ingesting live data from the Google Ads API, Meta Ads API and GA4 API through LangChain and the OpenAI API, one adapter per source, feeding a common reporting workflow.
- Contributed to the FastAPI backend and prompt workflow generating client campaign reports from live marketing data, reducing manual reporting effort.
- Contributed to an internal NLP tool analysing competitor websites, clustering content topics and identifying content gaps, using BERTopic and spaCy with results presented through a Streamlit interface.
- Helped build a retrieval augmented content generation tool grounded in client brand guidelines, contributing to prompt design, document ingestion and output refinement.
- Built and maintained client-facing websites including carrilagency.com and brau.ae, with custom JavaScript components, GA4 and Meta Pixel integrations and Core Web Vitals improvements, translating Figma designs into responsive experiences.

AI / Software Engineer Intern, Blockchain Advisors Ltd | Remote, UK

Jun 2026 - Aug 2026

- Sole engineer on a multi-venue crypto trading bot R&D prototype, owning the platform architecture, market data ingestion, strategy framework and backtester across a fixed ten-week delivery window.
- Worked across technical research, backend implementation, system design and documentation, assessing where AI could improve delivery speed and decision-making in emerging blockchain and Web3 use cases.

Data Science Intern, Amdari | Remote, UK

Aug 2025 - Feb 2026

- Completed a structured data science programme with mentored projects across churn prediction, HR attrition analytics and industrial predictive maintenance.
- Built and evaluated ML pipelines using XGBoost, Random Forest, SHAP, LSTM models, Streamlit and Power BI, translating model outputs into business recommendations.

Data Scientist, 10Analytics | Remote

Feb 2025 - Aug 2025

- Developed Python machine learning workflows using Pandas, NumPy and scikit-learn to support predictive modelling and analysis on structured datasets.
- Cleaned and prepared datasets, handling missing values, outliers, categorical encoding, scaling and train-test splits, and ran exploratory analysis to surface trends, correlations and data quality issues, reported through visualisations and analytical reports.

SELECTED PROJECTS, AI AND MACHINE LEARNING

Multi-Venue Crypto Trading Bot, Sole Engineer | Python, Docker Compose, PostgreSQL and TimescaleDB, Redis, CCXT, web3.py, Prometheus and Grafana

- Sole engineer on a modular DeFi trading platform, building the repository and Docker skeleton, market data ingestion, a pluggable strategy interface running rule-based, technical-analysis and ML strategies through one contract, and a backtesting and paper-trading harness modelling fills, fees and slippage.
- Built the execution layer behind a risk manager enforcing position limits, maximum drawdown and a global kill switch, with observability over positions, P&L, signals and executions, and live capital hard-capped as expendable R&D spend.

DraftDNA, AI Writing Assistant with Citation Support | Next.js 14, TypeScript, FastAPI, PostgreSQL, ChromaDB, GPT-4o, Docker

- Implemented citation-aware drafting including source-only citations, confidence labels, quality and authenticity reports, reference generation and DOCX and PDF export.
- Built a workspace analysing user writing samples, assignment briefs, rubrics and approved sources to produce structured, properly referenced drafts.

DocSage, Production PDF RAG System | Next.js 16, FastAPI, ChromaDB, SQLite, sentence-transformers, SSE

- Implemented source-grounded answers with inline citations, persistent vector storage, metadata tracking and evaluation scripts, so every answer is traceable to the document it came from.

Responsible AI Bias Audit for Loan Approval Models | Python, scikit-learn, XGBoost, SHAP, IBM AI Fairness 360, Aequitas

- Audited prediction behaviour across demographic groups using disparate impact and equal opportunity difference, and produced a report covering fairness findings, limitations and mitigation recommendations.

RepoLens AI, Local-First Codebase Audit Platform | Next.js, FastAPI, Ollama, qwen2.5-coder, Recharts

- Built a local-first audit platform running static analysis over an uploaded codebase, with deterministic scoring, issue deduplication and a dashboard for scores, issues and Markdown export.

SELECTED PROJECTS, FULL-STACK AND PLATFORM ENGINEERING

Ops Platform, AI Manufacturing Operations Platform | Next.js, FastAPI, PostgreSQL, SQLAlchemy, Alembic, Docker

- Implemented a FastAPI backend with SQLAlchemy models, Alembic migrations, PostgreSQL seed datasets and loader scripts for customers, materials, labour rates and quotes, alongside a B2B dashboard shell and quote workspace.

AuraFind, AI Recommendation Platform | Next.js, TypeScript, Supabase PostgreSQL, OpenAI Responses API, Vercel

- Converted natural-language requests into structured preferences and ranked a fragrance catalogue using transparent, inspectable scoring with deterministic fallback parsing, never inventing products the database does not hold.

COMPETITIONS AND AWARDS

- Winner, UKREiiF West Midlands Next-Gen Placemaking Challenge 2026. The Innovation Spine, a proposal to reconnect Birmingham's Knowledge Quarter using data, AI and placemaking; contributed the AI, data, software and commercial analysis to a cross-disciplinary submission judged by industry professionals.
- 1st Place, BCU AI Day Hackathon 2026, competing as team ApexMind. A fully local Wikipedia-grounded question answering system, scored 82 out of 100, built by a four-person team within a four hour limit.
- 2nd Place, Oracle and Red Bull APEX Agent Hackathon 2026, competing as team ApexMind. An agentic recommendation system handling preferences, budget, dietary needs, location and other real-world constraints.
- Finalist, Unihack and BCU Innovation Fest 2026. AquaSense AI, a wastewater compliance and forecasting system converting model output into graded risk levels delivered through a dashboard and real-time messaging alerts.
- Finalist, BCU STEAM Hatchery 2026. Selected as one of the top eight ventures to pitch for funding, with Nuclii.
- Finalist, BCU Innovation Fest 2021. Active n Me, a health and fitness application using personalised goals, activity tracking, workouts and gamified rewards.
- BCU Graduate+ Gold Award, awarded at Gold level for extracurricular development, employability and professional skills.

VENTURES AND ENTERPRISE

- Co-founder, Hillsville Farms, Hillsville Prime and 4Wheels.ng. Took each from concept to operating business, including a dealership model that marketed partner-owned inventory as catalogue and earned per transaction, removing the capital requirement to hold stock.
- BSEEN, Birmingham Skills for Enterprise and Employability Network. Developed Relay, a hyperlocal student delivery marketplace, covering customer validation, pricing, trust and the marketplace model.
- Co-founder and CTO, Nuclii. Took the venture through the BCU STEAM Hatchery accelerator, covering customer validation, business modelling, financial planning, go-to-market and pitching.
- Founder Institute Lagos, virtual programme. Founder training in customer discovery, validation, business models and go-to-market, including peer feedback and startup development exercises.

TECHNICAL SKILLS

Programming Java, Python, PHP, F#, SQL, JavaScript, TypeScript, Bash and shell scripting
Software engineering Full-stack architecture, Next.js, React, TypeScript, Laravel, FastAPI, REST API design, SQLAlchemy ORM, Alembic migrations, server-sent events, TanStack, responsive implementation from Figma
DevOps and infrastructure Docker, Docker Compose, GitHub Actions CI/CD, Vercel, environment and secrets configuration, MLflow, Evidently AI, monitoring and evaluation pipelines
Databases and APIs PostgreSQL, SQLite, Supabase, Redis, FAISS, ChromaDB, schema design and migrations, Google Ads API, Meta Ads API, GA4 API, Zoho CRM
Machine learning scikit-learn, XGBoost, LightGBM, PyTorch, TensorFlow and Keras, LSTM, CNNs, Transformers
LLMs and NLP OpenAI API, Ollama, qwen2.5-coder, LangChain, ChromaDB, Hugging Face, spaCy, BERTopic, Sentence Transformers, RAGAS
Explainability SHAP, LIME, DICE-ML, Captum, Integrated Gradients, IBM AI Fairness 360
Data and visualisation Pandas, NumPy, Matplotlib, Seaborn, Plotly, Tableau, Power BI, Recharts
Computer vision OpenCV, YOLOv8, ResNet, MobileNetV2, EfficientNet, Grad-CAM, TrOCR, Tesseract

EDUCATION

MSc Artificial Intelligence, Birmingham City University	Sep 2025 - Sep 2026
BSc (Hons) Computer Science, Birmingham City University	Jan 2020 - Jun 2023
• Awarded 2:1 (Upper Second Class Honours).	

CERTIFICATIONS

IBM SkillsBuild: Artificial Intelligence Fundamentals, Python for Data Science | Google Cloud Skills Boost: Introduction to Responsible AI, Introduction to Large Language Models | Kaggle Learn: Machine Learning Explainability, Feature Engineering

KEY STRENGTHS

Normalising unrelated data sources into a single schema an application can rely on. Retrieval, evaluation, explainability and monitoring for machine learning and LLM systems. Translating model behaviour into decisions non-technical stakeholders can act on. Working comfortably between engineering and commercial conversations, having pitched, priced and run ventures as well as built them. Delivering to fixed deadlines with limited resources, evidenced across four ventures and six competition placements.