

JOSHUA ONYEKACHUKWU

Software Engineer | Information Systems & Artificial Intelligence | Machine Learning & Data Engineering

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PROFESSIONAL SUMMARY

Software Engineer and AI professional with 5+ years of experience designing and shipping production applications, combined with a strong, hands-on foundation in machine learning and applied statistics. Experienced building end-to-end systems — from data ingestion, cleaning, and feature engineering through model development (regression, classification, clustering, dimensionality reduction, and deep learning with ANN/CNN/RNN-LSTM) to backend APIs, database design, and user-facing dashboards. Proficient in Python, Scikit-learn, TensorFlow, PyTorch, XGBoost, and LightGBM, alongside modern software engineering tooling. Currently leading frontend and AI-workflow engineering at VFXB while pursuing an M.Sc. in Financial Engineering, with a strong interest in applying software, data, and AI to support digital transformation, operational efficiency, and evidence-based decision-making across public and private sector organizations.

CORE TECHNICAL SKILLS

Programming Languages: Python, JavaScript, TypeScript

Query & Markup Languages: SQL, HTML, CSS

Machine Learning & Modeling: Linear & Logistic Regression, Decision Trees, Random Forest, SVM, XGBoost, LightGBM, K-Means Clustering, PCA, Artificial Neural Networks, CNNs, RNN/LSTM

ML/Data Tooling: Scikit-learn, TensorFlow, PyTorch, Pandas, NumPy, OpenCV

Data Engineering: Data ingestion & API collection, cleaning & preprocessing, feature engineering & selection, normalization, data validation, pipeline automation

AI Application Development: OpenAI API, LangChain, Retrieval-Augmented Generation (RAG), Prompt Engineering, NLP, Computer Vision, AI workflow integration

Information Systems / Software Engineering: React, Next.js, Node.js, NestJS, Express.js, TypeScript, Flutter, REST & GraphQL APIs, JWT Authentication, Role-Based Access Control, System Architecture

Databases: PostgreSQL, MySQL, MongoDB, Firebase, Supabase, Prisma ORM, database design & data modeling

Data Visualization & Reporting: Matplotlib, Seaborn, custom React-based dashboards, Business Intelligence concepts & reporting methodology

Cloud & DevOps: Git, GitHub, Code Reviews, Docker, Vercel, Cloudflare, CI/CD

PROFESSIONAL EXPERIENCE

Senior Frontend Engineer — VFXB (Remote)

Jul 2025 – Present

- Design complex dashboard experiences supporting AI workflows and large-scale datasets, including data loading, retry, and error states for AI-driven pipelines.
- Lead frontend architecture for production AI-powered software, translating requirements into interfaces that surface model outputs and analytics to end users.
- Integrate secure REST APIs and manage frontend/server state for data-intensive, AI-powered features.
- Build reusable component libraries and scalable frontend patterns; lead migration of a web application to React Native (Expo).

Senior Full Stack Engineer — Cyberence

Jan 2023 – Dec 2024

- Designed and developed applications across fintech, healthcare, e-commerce, and service industries, including backend APIs and secure authentication systems.
- Integrated third-party payment, analytics, and marketing platforms, working with structured data across the stack.
- Partnered directly with business stakeholders to translate requirements into production systems, owning delivery from scope to deployment.

Software Engineer & AI Solutions Developer — Freelance

Aug 2019 – Present

- Design and develop scalable web and enterprise applications, including secure backend systems and RESTful APIs.
- Develop AI-enabled software applications integrating machine learning models and LLM technologies into production-ready systems.

- Design relational database schemas and data workflows; implement authentication, authorization, and role-based access control.
- Develop machine learning solutions for prediction, classification, clustering, computer vision, and sequence modeling using Python.

SELECTED PROJECTS

Machine Learning & Data Science — Research & Applied Projects

- Built and trained machine learning models — linear/logistic regression, decision trees, random forest, SVM, XGBoost, K-Means clustering, PCA, and neural networks (ANN, CNN, RNN/LSTM) — applied to structured, image, and time-series data for prediction, classification, clustering, dimensionality reduction, and computer vision tasks.
- Designed data ingestion and preprocessing pipelines: collection from APIs and structured sources, cleaning and handling missing/inconsistent records, feature engineering and selection, normalization, and validation ahead of model training.
- Evaluated model performance using accuracy, precision, recall, F1-score, ROC-AUC, RMSE, and cross-validation depending on the task, and compared alternative configurations and hyperparameters through iterative, hypothesis-driven testing — applying the same experimental-design principles used in A/B testing to guide model selection.
- Tools: Python, Scikit-learn, TensorFlow, PyTorch, XGBoost, LightGBM, Pandas, NumPy, OpenCV.

Provance — Founder & Lead Engineer

- Designed and developed an AI-powered digital media verification platform integrating metadata analysis, forensic signal detection, and explainable AI workflows to support media authenticity assessment for investigators, journalists, and organizations.
- Designed scalable software architecture, backend APIs, and database models; integrated AI-powered verification workflows and authentication/security features.
- Implemented asynchronous AI pipelines with progress tracking, retry logic, and comprehensive error handling; built dashboards presenting AI-generated forensic reports and data visualizations for non-technical users.

Lock3din — Founder & Technical Lead

- Behavioral fintech platform helping users commit to goals through financial accountability and progress tracking.
- Designed platform architecture and backend services, including authentication, payment workflows, database schemas, and role-based dashboards.

AI Video Generation Platform — Technical Lead

- Designed an AI-assisted content generation platform supporting automated workflow orchestration for video production.
- Led AI workflow automation, backend architecture, API integration, and media processing pipeline design.

RESEARCH & ANALYTICAL SKILLS

Statistical Analysis · Mathematical Modelling · Data Interpretation · Experimental Design · Model Evaluation · Scientific Computing · Technical Documentation · Problem Solving

EDUCATION

M.Sc., Financial Engineering — WorldQuant University (*In Progress, Expected 2028*)

B.Sc., Physics & Astronomy — University of Nigeria, Nsukka (*2015 – 2019*)

ADDITIONAL SELF-DIRECTED STUDY

Extensive self-directed study in Machine Learning, Deep Learning, Statistical Analysis, Artificial Intelligence, Computer Vision, Natural Language Processing, Data Science, Predictive Analytics, Python for Data Analysis, Neural Networks, and Cloud Computing — applied directly through the hands-on modeling and pipeline work listed above.

PROFESSIONAL COMPETENCIES

Analytical & Systems Thinking · Communication · Cross-Functional Collaboration · Stakeholder Engagement · Adaptability · Continuous Learning · Problem Solving · Technical Leadership

ADDITIONAL INFORMATION

Languages: English (Professional)

Work Authorization: Open to remote opportunities and international relocation