

MBA THOMAS

AI/ML Engineer | Full-Stack AI Developer

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PROFESSIONAL SUMMARY

AI/ML Engineer and Software Engineer with experience designing intelligent applications, machine learning models, AI-powered automation systems, and cloud-native software. Proficient in Python, FastAPI, PyTorch, Scikit-learn, AWS, REST APIs, and workflow automation, with hands-on experience building computer vision applications, Retrieval-Augmented Generation (RAG) systems, predictive analytics solutions, and AI-powered automation workflows. Passionate about developing scalable, production-ready AI solutions that solve real-world business challenges through automation and data-driven intelligence.

WORK EXPERIENCE

MACHINE LEARNING INTERN

Jan '26 — Mar '26

CodeAlpha

Remote

- Developed a disease prediction system by implementing and comparing Logistic Regression, Random Forest, SVM, and XGBoost models on medical datasets.
- Engineered a Convolutional Neural Network (CNN) using PyTorch for handwritten character recognition.
- Documented end-to-end machine learning pipelines, model evaluation metrics, and technical documentation to improve reproducibility and maintainability.

FULL-STACK AI DEVELOPER (Freelance)

Feb '24 — Present

Kampala, Uganda (Remote)

- Designed and developed AI-powered workflow automation systems to streamline business operations.
- Integrated Large Language Model (LLM) APIs into web applications for intelligent content generation and conversational AI.
- Built scalable RESTful APIs using FastAPI and Python for AI-driven services.
- Deployed and managed cloud-hosted applications on AWS using Docker and Linux.
- Automated business processes using n8n, AI agents, and third-party API integrations.
- Collaborated with clients to translate business requirements into production-ready AI and software solutions.
- Designed, developed, tested, and deployed end-to-end AI applications from concept to production for business automation and intelligent decision-making.

FULL STACK PHP DEVELOPER

Oct '22 — May '23

Orinoco Global

Lagos, Nigeria

- Led both front-end and back-end development processes to build fully functioning platforms and servers from scratch.
- Designed and maintained integrated databases for fintech and wellness-focused web projects.
- Partnered with engineers, designers, and project managers to bring complex web applications to life.

WEB DEVELOPER

Aug '21 — Oct '22

Adaltech

Lagos, Nigeria

- Designed and maintained websites ensuring smooth performance, aesthetics, and high accessibility.
- Resolved technical issues, eliminating loading delays and error messages to improve user experience.
- Managed technical aspects including site performance and capacity to handle high traffic volume.

AI & MACHINE LEARNING PROJECTS

Computer Vision

- Developed traffic analysis and object detection applications using OpenCV and deep learning techniques.
- Built hand and face detection systems enabling gesture-based and touchless human-computer interaction.
- Applied image preprocessing and computer vision algorithms to improve detection performance.

Predictive Analytics

- Built machine learning classification models using the HELOC dataset for credit risk assessment.
- Developed predictive models using Scikit-learn across multiple datasets including Titanic Survival, House Prices, and Heart Disease Prediction.
- Performed feature engineering, model evaluation, and performance comparison to improve predictive accuracy.

Retrieval-Augmented Generation (RAG) Workflow

Technologies: LangChain • Pinecone • OpenAI • Embeddings • Vector Search

- Developed a Retrieval-Augmented Generation (RAG) pipeline combining semantic document retrieval with LLM-based response generation.
- Built document ingestion, embedding generation, vector indexing, and semantic search workflows.
- Implemented a vector database using Pinecone for semantic search and efficient document retrieval.
- Built embedding pipelines and optimized similarity search for AI-powered question answering applications.
- Optimized context retrieval using Pinecone to improve response relevance and accuracy.

AI Chat Agent

Technologies: OpenRouter • Webhooks • REST APIs

- Developed an AI conversational agent capable of processing user requests and triggering external workflows through webhook integrations.
- Designed prompt workflows to deliver accurate and context-aware responses.

Social Media Auto Scheduler

Technologies: n8n, APIs, Workflow Automation

- Designed an automated social media scheduling platform that generates, schedules, and publishes content across multiple platforms.
- Reduced manual publishing effort through intelligent workflow automation.

EDUCATION

B.Sc. in Computer Science, University of Jos

Aug '21
Jos, Nigeria

- Degree Awarded with Second Class Honors, Upper Division

Diploma in Information Technology (Software Engineering), NIIT

Mar '23
Lagos, Nigeria

- Degree Awarded with Professional Diploma in I.T.

Higher Education Certificate in Humanities, Cavendish University Uganda

May '24
Kampala, Uganda

- Degree Awarded with Second Class Upper

SKILLS

Programming Languages: Python, JavaScript, PHP, SQL

AI & Machine Learning: PyTorch, Scikit-learn, CNN, ANN, LSTM, XGBoost, SVM, Computer Vision, Feature Engineering, Model Evaluation

Generative AI: Large Language Models (LLMs), Prompt Engineering, Retrieval-Augmented Generation (RAG), LangChain, AI Agents, Vector Embeddings, Pinecone

Backend Development: Laravel, REST APIs, API Integration, Object-Oriented Programming (OOP)

AI Automation: n8n, Webhooks, Workflow Automation

Data Science: Pandas, NumPy, Data Analysis, Data Processing, Research

Cloud & DevOps: AWS, Docker, Git, FastAPI, Linux, Nginx

REFERENCES

- Available upon request

