

# NATHANIEL HANDAN

AI/ML Engineer | Robotics @ Embedded Systems Engineer | Innovator

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📍 Abuja, Nigeria    🌐 <https://github.com/Tinny-Robot>

## SUMMARY

AI/ML Engineer and Robotics Specialist with 3+ years of experience developing autonomous systems, computer vision solutions, and multilingual AI models. Co-founder of KudiTraka.AI and lead contributor to the Large Hausa Model (LHM). Proven success in building open-source tools like DimSense and leading AI/Robotics projects recognised internationally, including winning the IEEE Metaverse Grand Challenge 2025. Adept at bridging technical expertise with community engagement through AWS Community Builders and AI Bauchi initiatives.

## EXPERIENCE

Co-Founder & Chief Technology Officer

**Innov8 Hub**

📅 02/2025 - Present    📍 Remote

- Spearheaded the development of **MISA**, an AI-powered financial assistant with a voice user interface, increasing bookkeeping efficiency for 100+ small businesses by 70%.
- Integrated advanced speech recognition and NLP models, enhancing accessibility for non-technical users.
- Led a cross-functional team (AI, backend, frontend, design) to deliver scalable AI solutions.
- Secured early-stage funding through strategic partnerships, driving market expansion.

Engineer Intern.

**Innov8 Hub**

📅 02/2025 - Present    📍 Abuja, Nigeria

- Part of the Innov8 Hub engineering team that won 1st place in the **IEEE Metaverse Grand Challenge 2025**, developing a cutting-edge immersive simulation system.
- Designed and tested robotics and AI-driven systems for innovation-focused projects, improving prototype efficiency by 25%.
- Collaborated with interdisciplinary teams to deliver solutions in IoT, AI, and XR technologies.

AI Engineer.

**Obsidian Tech**

📅 Apr 2025 - Aug 2025    📍 Remote

- Initiated and developed a Trade Bot project that delivered over 120% weekly ROI, showcasing applied AI in fintech and trading automation.
- Contributed to multiple AI projects under NDA, involving advanced machine learning, predictive analytics, and automation for global clients.
- Collaborated with cross-border engineering teams to design AI solutions tailored for finance and business intelligence.

Machine Learning Community Builder.

**AWS Community Builders**

📅 Mar 2023 - Present    📍 Remote

- Organised 5+ workshops and webinars, training over 800 participants on AWS cloud services.
- Authored technical blog posts and resources, increasing community engagement by 30%.
- Mentored junior developers and collaborated with AWS evangelists to expand awareness of AWS offerings.

## CERTIFICATION

**Machine Learning & Deep Learning in Python & R**

Udemy

**GITHUB FOUNDATION CERTIFICATE.**

GitHub

**Linux Bash Scripting**

Udemy

**Explore Lab C4 Certificate**

54 Collective

**AWS AI PRACTITIONER CERTIFICATION**

AWS

## AWARDS



**ATBU Tech Titans Innovator of the Year 2024**



**ATBU Nuesa Innovator of the Year 2024**



**ATBU Tech-Titans Tech Enthusiast Award 2024**



**IEEE Metaverse Grand Challenge 2025 – 1st Place (Team Simulations Innov8 Hub)**

Instructor.  
**NITDA AI Developer Training**

📅 May 2023 - Oct 2024    📍 Abuja Nigeria

- Delivered intensive AI training to 1,000+ developers on deep learning, data science, and computer vision.
- Designed curriculum modules that achieved a 95% course completion rate.
- Supervised hands-on projects, enabling participants to deploy practical AI solutions in local contexts.

AI Engineer  
**Kwevox AI**

📅 Aug 2025 - Sep 2025    📍 Remote

- Developed a Medical Chatbot to assist patients and healthcare providers with intelligent diagnosis support and health guidance.
- Contributed to Vibe Coding, an AI-powered platform enabling companies to build fully functional websites from scratch using natural language prompts.
- Built Bayyana Analytics, an AI-driven business intelligence platform enabling Nigerian SMEs to transition to digital-first, data-driven operations with automated analytics and insights.
- Delivered an AI-powered Website Builder for SMEs, enabling fast creation of SEO-optimized websites with tailored templates and AI-generated content.

**PROJECTS**

**DimSense - Feature Engineering Library**

📅 08/2023 | Open Source (Python)

- Built a Python library providing feature selection and extraction methods (PCA, RFE, Autoencoders, Lasso, FastICA).
- Reached **6,000+ pip downloads** and gained contributions from the open-source community.
- Simplified complex ML workflows, improving model performance and reducing overfitting for data scientists.

<https://github.com/Tinny-Robot/DimSense>

**NCAIR Rasp-Bot - Autonomous UGV**

📅 05/2023 - 06/2023 | Abuja, Nigeria

- Designed a Raspberry Pi-powered Unmanned Ground Vehicle integrating **ROS2 Humble** for robotics middleware.
- Implemented autonomous navigation, real-time obstacle avoidance, and object-tracking using computer vision.
- Enabled remote teleoperation for flexible mission control.

[https://github.com/NCAIRNigeria/NCAIR\\_Rasp-Bot](https://github.com/NCAIRNigeria/NCAIR_Rasp-Bot)

**SkillForge VR (IEEE Metaverse Grand Challenge 2025 Winning Project)**

📅 08/2025 | Unreal Engine + AI

- Collaborated on SkillForge VR, the submission that won 1st place globally at the IEEE Metaverse Grand Challenge 2025.
- Led AI module development, enabling intelligent interactions and adaptive XR-based simulations.
- Integrated robotics and IoT capabilities into immersive VR learning environments.

<https://github.com/KeneUkwueze/SkillForge-VRSense>

**STEM Outreach & Large Hausa Model – AI Bauchi**

📅 2022 - 2024 | Bauchi Nigeria

- Directed development of the **Large Hausa Model (LHM)**, Nigeria's first Hausa language LLM. <https://lhm.tinnyrobot.com>
- Coordinated AI workshops and bootcamps, training **800+ students** in underserved communities.
- Recognised as an Outstanding Community Project for advancing indigenous language AI.

<http://aibauchi.com.ng/e.co/Tinny-Robot/acne>

**SKILLS**

Machine Learning

Python Programming

Data Structures and Algorithms

Customer Research

Machine Learning Algorithms

TensorFlow PyTorch

Continuous Integration CI

Scikit-Learn

Numpy

GitHub

GitHub Copilot

SQL/NoSQL Databases

Keras

Core Java

Deep Learning Architectures

Android

Linux

Shell Scripting

System Administration

Natural Language Processing (NLP)

Transfer Learning

Deep Learning

PyTorch

TensorBoard

Time Series Analysis

Statistical Data Analysis

Business Intelligence BI

Jupyter

Convolutional Neural Networks CNN

Image Processing

Bash

Flask

SciPy

Computer Vision

Multi-modal AI Models

Robot Operating System ROS

Artificial Intelligence AI

Object-Oriented Programming OOP

Autonomous Vehicles

Raspberry Pi

Creativity and Innovation

TensorFlow

Feature Engineering

Feature Extraction

Feature Selection

Scikit-Learn

Management

STEM Education

Instruction and Training

STEM Outreach

Robotics

IoT Internet of Things)

Drones

Leadership

Computer-Aided Design CAD

Problem Solving

Data Analysis

SOLIDWORKS

Mechanical Testing

Mechanics

Power Systems

IP Addressing

## Acne Detection Algorithm for Black Skin

📅 03/2023 | Python (YOLOv8, ResNet-50, OpenCV)

- Developed a fine-tuned model to detect acne lesions on Black skin tones, achieving **75% accuracy**.
- Addressed gaps in dermatological AI by focusing on underrepresented demographics.
- Expanded solution with a **dietary recommendation system** for personalized health guidance.

<https://huggingface.co/Tinny-Robot/acne>

## EDUCATION

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Abubakar Tafawa Balewa University

B.Eng. Mechatronics and Systems Engineering

- **Concentration:** Control Systems • Robotics & Automation • Embedded Systems & Microcontrollers • Mechanical Design • Sensors & Actuators • Machine Learning Applications
- **Final Year Project (A Grade):** AI-Powered Virtual Classroom