

TOMIWA ADEYEMI

tomiwa@adeyemi.eu | linkedin.com/in/tomiwaadeyemi

PROFILE

First-Class BEng Robotics and Artificial Intelligence graduate specialising in applied deep learning, edge-AI optimisation and autonomous systems. Co-Founder & CTO of Agritwin Intelligence, leading development of a smartphone-based crop disease detection product. Proven at engineering robust solutions for noisy, real-world environments — from model design, pruning and explainability through to embedded hardware debugging.

TECHNICAL SKILLS

- **Languages:** Python, C, C++, MATLAB, SQL, Forth
- **AI / ML:** PyTorch, TensorFlow, OpenCV, scikit-learn, transfer learning, model pruning & optimisation, Grad-CAM explainability
- **Robotics & Control:** ROS 2, Webots, SLAM, PID control, inverse kinematics, real-time sensor fusion
- **Hardware & Embedded:** PCB design, circuit analysis, microcontrollers, oscilloscope debugging, soldering
- **Tools:** Git, Linux (Ubuntu), VS Code, Autodesk Fusion 360
- **Certifications:** Oracle Certified Professional — OCI Data Science Professional (2025); Oracle Certified Associate — OCI AI Foundations (2025)

EXPERIENCE

Co-Founder & CTO | Agritwin Intelligence Ltd Apr 2026 – Present

- Lead all technical development of AgriSense AI, a smartphone-based crop disease detection tool for smallholder farmers, built on a pruned MobileNetV2 pipeline.
- Validated the model at **97.5% ± 0.2% accuracy** (macro F1 0.97) across **38 disease classes** over multi-seed runs; currently building the Android MVP.
- Co-authoring a **\$200k** innovation-grant proposal (DIV Fund Stage 1) for a South African field pilot.

Technology Intern | StatsXperts Consulting Ltd Jun 2020 – Aug 2021

- Researched and built databases of biotech/pharma firms to support data-driven business insights; presented findings to executives.

TECHNICAL PROJECTS

Robust Deep Learning for Agricultural Disease Detection | Final Year Project — graded 80%

- Developed a lightweight, noise-resilient computer-vision system detecting 38 plant disease classes in PyTorch, outperforming standard RGB models in simulated field conditions.
- Benchmarked a custom baseline CNN against MobileNetV2 (transfer learning), optimising for deployment on resource-constrained mobile devices.
- Built a robustness pipeline (greyscale conversion + Gaussian noise injection) to mitigate overfitting and colour bias; validated feature learning with **Grad-CAM**, ensuring the model focuses on lesion morphology rather than background noise.
- Pruned the model by **15% of parameters** for edge-device efficiency without significant accuracy loss.

Bio-Inspired Hexapod Robot | Hardware & Systems Integration

- Designed and built an **18-DOF hexapod robot**, integrating mechanical linkages, electronic power distribution and control software.
- Diagnosed severe instability during high-torque manoeuvres with an oscilloscope, tracing it to voltage transients from a 10 A current draw; designed and soldered a custom power-distribution circuit with calculated capacitor filtering.
- Eliminated processor resets and **increased system reliability by 80%**, enabling uninterrupted autonomous behaviours (phototaxis and object avoidance).

Autonomous Agent Navigation | ROS 2 Simulation

- Programmed an autonomous mobile robot in Python and ROS 2 within Webots, with object-oriented control logic for real-time sensor fusion.

- Adaptive obstacle-avoidance algorithm **cut collision rates by >70%** versus standard reactive controllers in complex maze environments.

ADDITIONAL EXPERIENCE

Part-time roles held alongside full-time study:

Team Member | Tesco

Feb 2024 – Present

- Operate in a high-pressure logistics environment, prioritising tasks to maintain efficiency during peak trading hours and resolving customer issues under time constraints.

Sales Assistant | Clarks

May 2023 – Dec 2023

- **Highest-selling employee of the season**, exceeding sales targets through customer-first problem-solving and clear communication.

EDUCATION

BEng (Hons) Robotics and Artificial Intelligence | University of Hertfordshire

Sept 2023 – July 2026

First Class Honours (73%). Relevant modules: Machine Learning, Deep Learning, Artificial Intelligence Principles, Applied Robotics and AI.