

Paul Yaw Nti

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Executive Summary

MSc Systems Engineering for IoT student at University College London with hands-on experience in autonomous multi-agent robotics systems. Proven expertise in implementing path planning algorithms (A*, CBS), computer vision (YOLOv8, ArUco), and ROS-based autonomous navigation. Proficient in Python and deep learning frameworks (TensorFlow, PyTorch) with experience deploying ML models in real-world robotic systems. Strong foundation in C++ development and autonomous systems design.

Experience

Multi-Agent Robotics Researcher, UCL

September 2024 – Present

- Developed autonomous target search and retrieval system using TurtleBot3 robots with ROS 2 Humble, achieving zero-collision performance in real-world deployment.
- Implemented A* path planning algorithm for optimal navigation and Conflict-Based Search (CBS) for multi-robot coordination, successfully coordinating 3+ robots simultaneously.
- Integrated computer vision pipeline using YOLOv8 for object detection and ArUco markers for precise localization when motion capture systems failed.
- Designed and deployed autonomous agent node architecture in Python/C++ handling sensor fusion (LIDAR, camera, odometry), real-time path planning, and obstacle avoidance.
- Successfully transitioned project from PyBullet simulation to real-world TurtleBot3 deployment, demonstrating robust sim-to-real transfer.

Software Engineer, theSOFTtribe, Ghana

October 2024 – Oct 2025

- Built and deployed software infrastructure for a nationwide digital agriculture system supporting 3,500+ users with low-latency performance.
- Integrated connectivity and backend pipelines with Vodafone/MTN, optimising reliability and throughput.
- Collaborated with engineers and business teams to deliver high-impact, data-driven features.

Software Engineer, Bornbalanced+, Ghana

January 2025 – Oct 2025

- Designed and implemented a scalable backend using Django, PostgreSQL, and GCP-based infrastructure.
- Improved onboarding flow by 2.5× through optimisation and clean API architecture.
- Built data pipelines for user analytics and behaviour tracking.

Software Engineer Intern, theSOFTtribe, Ghana

September 2022 – Jan 2023

- Contributed to system requirement design, backend workflows, and software implementation for the AgriConnect platform.
- Built geolocation and tracking software for Nsoroma GPS fleet system.
- Delivered Beta payroll system (Akatua DB) with 80% satisfaction.

Education

University College London, MS in Systems Engineering for the Internet of Things

Sept 2025 – Sept 2026

- GPA: 1 (Expected)
- **Coursework:** Sensor Systems, Real-world Multi-agent Systems, ML for Robotics, Embedded Systems

University of Oxford - LMH Summer Programme, Advanced AI/ML - NLP

Aug 2025

- Grade: 73/A
- **Coursework:** Text Classification with Neural Networks, Transformers scratch for Text Summarization, BART fine-tuning for Text Summarization, Asthma Detection with Wavenet, RAG System Implementation Baseline

Kwame Nkrumah University of Science and Technology, BS in Computer Science

Jan 2021 – Nov 2024

- GPA: 2:1

- **Coursework:** Data Structures & Algorithms, Computer Architecture, Networks, Software Engineering.

Professional Associations and Community Service

Deeper Life Campus Fellowship, Data Science Tutor

Jul 2025

- Teaching ML fundamentals, Python programming, and data analysis to students, fostering next generation of AI/ML practitioners.

TechDrive Africa, Deputy Director

Jan 2025 - Present

Orphan Art (fka. Hues and Stencils), Ambassador

Jul 2025 - Present

Projects

Maizester

github.com/paulntitemi/M

- Developed CNN-based computer vision model for real-time maize disease detection using image classification
- Built cross-platform mobile application with Flutter frontend and ML model integration for field deployment

PulseBreak+

github.com/paulntitemi/pb

- Developed health tracking application with ML-powered mood analysis and personalized AI chatbot for wellness recommendations.
- Implemented intelligent notification system using behavioral pattern recognition and predictive analytics.

Skills

Programming Languages: Python, C++, C, Java, SQL, JavaScript

AI/ML: TensorFlow, PyTorch, JAX, Transformers (BART, GPT), CNNs, Computer Vision (YOLOv8, OpenCV, ArUco markers), Neural Network training & evaluation

Robotics: ROS 2 Humble, ROS Noetic, Path Planning (A*, Dijkstra), Multi-robot coordination (CBS), SLAM, Sensor Fusion, LIDAR processing, Odometry

Simulation/Testing: PyBullet, Gazebo, TurtleBot3 simulation, Real-world robot deployment

Cloud & DevOps: GCP, AWS, Docker, Git/GitHub, CI/CD (Jenkins), Linux

Dev Tools: Django, Flask, Flutter, Jira, Agile methodologies

Soft: Analytical thinking, Clear communication, Team collaboration, Problem-solving, Fast learner