

PASCAL OCHIENG

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GitHub: <https://github.com/OROT-ENG> Portfolio: <https://OROT-ENG.github.io> — certificates available under the 'Gallery' tab

PROFESSIONAL SUMMARY

Aspiring researcher and graduate in Telecommunication and Information Engineering with strong experience in IoT systems, embedded machine learning, and anomaly detection. Designed and deployed real-time livestock monitoring systems with Random Forest ML models running on microcontrollers. Proficient in Python, C/C++, and experienced with data science libraries and electrical hardware design. Keen to advance research in AI applications for health, agriculture, and sustainability.

KEY STRENGTHS & ACHIEVEMENTS

- i. Built and deployed an IoT-based real-time cattle health monitoring system using ESP32, MPU6050, and a Random Forest model (92% accuracy).
- ii. Proficient in Python and C/C++ with hands-on experience in firmware development, data preprocessing, and model deployment on edge devices.
- iii. Familiar with AI/ML frameworks (Scikit-learn, Pandas, Matplotlib), embedded ML (micromlgen), and EDA tools (KiCad).
- iv. Successfully completed NCA Building Code training, emphasizing electrical safety in buildings.
- v. Provided ICT and technical support to 900+ clients as part of community-based service roles.

RELEVANT EXPERIENCE

a. Calmape Engineering Ltd — Electrical & ICT Intern

Nakuru | Jan 2025 – Present

- i. Supported electrical system installations including power cabling, structured cabling, and ICT systems.
- ii. Participated in field inspections and supervised compliance with electrical safety standards
- iii. Drafted and reviewed tender specifications for electrical and ICT projects.
- iv. Supported preparation and formatting of professional tender documents.
- v. Facilitated front-office tasks including client reception, document tracking, and report filing.
- vi. Participated in official tender submission processes and accompanied project engineers to site visits for technical evaluation.

b. Savotech Venture — Electrical Attachment

Bondo | May – Aug 2023

- i. Installed and maintained generators, solar systems, alarms, and CCTV.
- ii. Performed safety inspections and collaborated with senior technicians.

c. DeKUT Chaplaincy Media Center — ICT & Systems Volunteer

Nyeri | Sep 2023 – Jan 2025

- i. Maintained Wi-Fi routers and resolved power issues.

d. DeKUT - Electrical Engineering Department — Engineering Attachment

Nyeri | May – Aug 2022

- ii. Built and tested PCB layouts and Arduino-based control projects.

EDUCATION

2020-2025

BSc. Telecommunication & Information Engineering

Dedan Kimathi University of Technology, Nyeri

Second Class Upper | Graduated May 2025

2016-2019

KCSE – Siger Mixed Secondary School

2007-2015

Siger primary school

TECHNICAL SKILLS

- i. Programming: Python, C/C++, Arduino
- ii. Machine Learning: Random Forest, Scikit-learn, Pandas, Feature Engineering
- iii. Embedded Systems & Hardware: ESP32, MPU6050, micromlgen, PCB Design (KiCad)
- iv. Tools & Software: MATLAB, Arduino IDE, AWS IoT,
- v. Electrical Systems: Wiring, Solar Installations, Generators, Structured Cabling

PROJECTS

IoT-Based Livestock Health and Activity Monitoring System — Final Year Project, DeKUT | 2024

- i. Designed and implemented a cattle-wearable device using ESP32 and MPU6050 sensors for real-time monitoring of temperature and activity.
- ii. Built an end-to-end data pipeline using ESP-NOW and Wi-Fi to transmit data from sensors to AWS Cloud.
- iii. Developed and deployed a Random Forest Classifier (92% accuracy) on ESP32 for local anomaly detection.
- iv. Utilized micromlgen to convert Python-trained models into C for embedded inference.

Electrical & Surveillance Systems Installations — Savotech Venture | 2023

- i. Executed complete setups of CCTV, alarm systems, solar units, and power backups.

CERTIFICATIONS & TRAININGS

- i. NCA Building Code Sensitization Training (2025)
- ii. Python Essentials, Cisco Networking Academy (2025)
- iii. Cisco Networking Basics, Cisco Networking Academy (2025)
- iv. Soft Skills Training, Brighter Monday/Mastercard Foundation (2025)
- v. Peer Counselling Training, DeKUT (2021)

LEADERSHIP ROLES

- i. Chairperson, DeKUT Catholic Electoral Commission (2024/2025)
- ii. Coordinator, St. Joseph Engineering Association (2023/2024)
- iii. Class Representative, DeKUT (2025)

INTERESTS

- i. Embedded Machine Learning & AI for Agriculture and Health
- ii. Electrical Systems Design & Automation
- iii. Hiking, Mentoring Youth, Community Engagement

REFEREES

Dr. Joseph Muguro
Lecturer, Electrical Department, DeKUT
Final year project supervisor
Phone: +254 724 429600

Mr. Geoffry Mula
Project Manager, Calmape Engineering Ltd
Phone: 0711 652 835

Mr. Benard Asewe
Director, Savotech Venture Bondo
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