

David Muigai Ndegwa



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Motivated and detail-oriented final-year *Electrical and Electronic Engineering* student with a strong foundation in electrical systems, embedded systems, circuit design, and telecommunications. Proficient in problem-solving, technical drawing, and team collaboration. Seeking opportunities to apply academic knowledge in real-world settings and contribute meaningfully to innovative engineering solutions.

Experience

May 2024 – August 2024

Industrial Attachment

KPLC (Power and Lighting Company) – Nakuru 132 Kv LANET-SUBSTATION, Nakuru

- Assisted in the maintenance of power distribution systems and electrical panels.
- Participated in site inspections for rural electrification projects.
- Supported engineers in creating AutoCAD layouts and wiring diagrams.
- Conducted testing of low-voltage systems and assisted in troubleshooting faulty circuits.
- Gained hands-on experience with transformers, generators, and protective devices.

May 2023 – August 2023

Industrial Attachment

CEIL – Central Electrical International Limited – Chuka Branch, Chuka

- Participated in on-site electrical installation works for a new building under construction.
- Installed electrical conduit piping (surface and concealed) for distribution board connections.
- Performed wall chasing and embedding of electrical boxes as per design.

Skills

- **Software:**
MATLAB,
Proteus,
AutoCAD
Electrical,
Multisim,
LabVIEW, PLC
Programming
(Siemens),
Arduino IDE,
C/C++
- **Hardware:**
Oscilloscope
, Signal
Generator,
Soldering,
PCB
Design,
Power
Analyzers
- **Networking:**
Basic TCP/IP,
IoT Principles
- **Electrical:**
Circuit Design,
Wiring,
Troubleshootin
g, Solar PV
Systems,
Control Panels

- Assisted in mounting and wiring distribution boards and protective devices.
- Helped in pulling and terminating cables for lighting, sockets, and other loads.
- Ensured compliance with safety protocols and standards on-site during all installation tasks.
- Worked closely with senior technicians to interpret electrical drawings and execute installations.

Education

Expected in October 2026

Bachelor of Science: Electrical and Electronic Engineering
Chuka University

Key Courses: Power Systems, Analog and Digital Electronics, Control Systems, Signal Processing, Electromagnetics, Electrical Machines, Embedded Systems, Communication Systems, Circuit Theory

Certification and training

- AutoCAD Electrical
- Introduction to IoT
- First Aid & Safety Training

Referees

Available upon request

Hobbies and Interests

- Robotics and DIY Electronics
- Football and Athletics
- Blogging about engineering innovations

Languages

English – Fluent

Kiswahili – Fluent

Academic Projects

1. Home Automation System using Arduino

- Designed and programmed a smart home system capable of controlling lights, fans, and appliances via smartphone (Bluetooth and Wi-Fi enabled).
- Integrated motion sensors and relays for security and energy efficiency.
- **Tools:** Arduino Uno, Blynk App, Sensors, Relays

2. IoT-Based Greenhouse Monitoring Assistant

- Designed a system to monitor soil pH, moisture, temperature, and plant growth using ESP32.
- Captures daily plant images and logs environmental data to Firebase in real time.
- Integrates AI models to generate irrigation advice and predict water sufficiency.
- Aims to assist farmers with data-driven insights for better crop management.

Leadership & Campus Involvement

- **Vice Chair – Engineering Students Association (2023)** *CHUKA university*
 - Organized workshops and field visits for over 200 engineering students.
 - Led team in organizing the annual Tech-Expo for student innovation.
 - Participated in industry webinars, coding competitions, and project showcases.