DERICK OGUTU

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ELECTRICAL AND ELECTRONICS ENGINEER

Instrumentation and Control | Software Developer | Embedded Systems Engineer.

PROFESSIONAL PROFILE

Versatile and detail-oriented Electrical and Electronics Engineering graduate with hands-on experience in embedded systems, digital electronics, heavy equipment diagnostics, and software development. Specialized in Instrumentation & Control: Sensor calibration, PID control systems, signal conditioning, analog/digital interfacing, transducers, DAQ systems and industrial process monitoring. My versatility also spans my deep interest in vehicle electronics, industrial automation and energy systems. Proven experience with embedded microcontrollers, PCB design, firmware debugging, and IoT integration. Passionate about building technology-driven solutions for real-world applications and supporting modern infrastructure, including electric mobility, smart power systems, and industrial machinery.

TECHNICAL SKILLS

- Embedded Systems Development: STM32, ESP32, Arduino, C/C++
- PCB Design: KiCad – schematic capture, board layout and prototyping
- Instrumentation and Control: PID control systems, DAQ Systems, Industrial monitoring
- Electrical Systems: Motor controllers, SCADA basics, wiring schematics, relays, low voltage protection
- Heavy Equipment diagnostics: Excavators (Electrical Control Systems), Hydraulic systems, Cranes
- Industrial Automation: PLCs, DCS, HMIs, Sensor calibration (ongoing training)
- Automation Tools: Siemens S7, Rockwell Automation Studio 5000, AutoCad, Schneider Electric
- Solar Power: Remote System Monitoring, Solar System Design
- IoT & Cloud: AWS IoT (basic), wireless modules (GSM/GPS), telemetry integration
- Programming Languages: Python, JavaScript, C++, Bash, HTML/CSS
- Tools & Platforms: Git, GitHub, Linux, VS Code, Figma

PROFESSIONAL EXPERIENCE

1. Hardware Embedded Systems Intern

Data Integrated Limited (DIL)- (August 2024 – May 2025)

i.   Supported installation and diagnostics of embedded telematics devices including speed governors, GPS, and GSM modules in PSVs

ii.   Developed wiring diagrams and documentation for custom vehicle systems

iii.   Contributed to firmware upgrades and documented diagnostic logs

iv.   Develop of new hardware solutions inform of PCBs.

v.   Assisted in IoT-based data collection and validation for fleet tracking applications

2. **Electrical Intern- Electrical Maintenance**

Unibrain Industries – (June 2024 – August 2024)

i. Participated in servicing industrial control panels, motors and wiring low-voltage systems

ii. Installation and handling electrical faults in the workshop

iii. Supported instrumentation setup for operational machinery and basic electronics diagnostics

iv. Oversee, record and submit the daily production records

Attachee – Electrical Power Systems

Kenya Power and Lighting Company (KPLC) – (May 2023 – August 2023)

i. Worked on power distribution networks, conducting routine maintenance on transformers.

ii. Design and Construction of new transmission lines

iii. Underground cabling, Emergency Services and Customer Services

iv. Telecommunication, Meter testing and standardization

v. SCADA system operations, ensuring continuous and reliable grid performance

EDUCATIONAL BACKGROUND

I.   **EGERTON UNIVERSITY, Bachelor of Science in Electrical and Electronics Engineering.**

(Instrumentation and Control Engineering option): 2019 - 2024

• Relevant courses: Control Systems, Industrial Automation, Power Systems, Process Engineering, Embedded Systems Engineering (microcontrollers and microprocessors).

PROFESSIONAL TRAINING AND CERTIFICATIONS

• **Software Development**

Power Learn Project (PLP) – Certified, August 2024

Software development, covering python Django, web technologies and database systems. Created an educational platform (STUDYROOM) with emphasis on user experience and functionality.

• **Software Engineering**

ALX Software Engineering School – Certified, November 2023

Introduction to Software Engineering, basic programming languages such as Python, HTML, CSS and JS. Developed a personal portfolio website.

• **Embedded Systems and PCB design –** (Self-paced training)

• **Industrial Automation** – PLC, HMI, Sensors (Self-paced training)

PROJECTS & ACCOMPLISHMENTS

- Remote Solar Monitoring System: Designed and programmed an STM32-based system for real-time solar plant data acquisition and control.
- Custom PCB Projects: Created and fabricated multiple PCBs including a USB-UART bridge, STM32 breakout boards, and a mixed-signal audio system using KiCad. (Visit my github [https://github.com/mypin99] to view my Electrical Schematics and PCBs I have developed)

EXTRACURRCULAR ACTIVITIES AND HOBBIES

•   Member, Egerton University Technology Enthusiasts Engineers Club (EUTEEC) – Participated in various Engineering projects and events. Active participant in industry webinars and conferences

•   PCBs design, Coding, playing Lawn Tennis