DERICK OGUTU

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Personal Portfolio: https://ogutu-derick-portfolio.netlify.app/

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, Artificial Intelligence & Machine Learning and software development. Specialized in Instrumentation & Control: sensor calibration, PI & PID control systems, signal conditioning, analog/digital interfacing, transducers, DAQ systems, and industrial process monitoring.

Versatility also spans 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 across electric mobility, smart power systems, and industrial machinery.

TECHNICAL SKILLS

• Embedded Systems Development: STM32, ESP32, Arduino, C/C++, KiCad

• 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

• Artificial Intelligence and Machine Learning

• Industrial Automation: PLCs, DCS, HMIs, sensor calibration (ongoing training)

• Automation Tools: Siemens S7, Rockwell 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 – Present)

• Install and diagnise embedded telematics systems including GPS, GSM modules, and speed governors in PSVs.

• Design wiring diagrams and draft documentation for customized vehicle systems.

• Upgrade existing firmware and optimize embedded code to enhance system reliability.

• Develope PCB-based hardware solutions for in-vehicle telematics and IoT integration.

• Collect and validate sensor data for fleet tracking and cloud-based analytics systems.

2. Electrical Intern- Electrical Maintenance

Unibrain Industries – (June 2024 – August 2024)

• Serviced industrial control panels, three-phase motors, and low-voltage electrical systems.

• Diagnosed and resolved electrical faults in workshop equipment and production lines.

• Installed instrumentation systems and performed diagnostics on critical machine operations.

• Streamlined the daily production recording process, enhancing reporting accuracy and efficiency.

3. Attachee – Electrical Power Systems

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

• Maintained transformers, distribution substations, and underground cabling systems.

• Supported new transmission line construction and emergency fault restoration.

• Assisted with meter testing, power quality analysis, and customer service support.

• Monitored SCADA system performance and reported grid operation metrics.

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

• Artificial Intelligence and Machine Learning – Oracle University, July 2025

• Software Development – Power Learn Project (PLP), Aug 2024

• Software Engineering – ALX Software Engineering School, Nov 2023

• Embedded Systems and PCB Design – Self-paced

• Industrial Automation (PLCs, HMIs, Sensors) – Self-paced

PROJECTS & ACCOMPLISHMENTS

• Designed an STM32-based solar monitoring system for real-time energy data acquisition and remote control.

• Engineered and fabricated PCB projects: USB–UART bridge, STM32 dev boards, and a mixed-signal audio system.

• Published all embedded systems projects via GitHub: github.com/mypin99

EXTRACURRCULAR ACTIVITIES AND HOBBIES

• Member – Egerton University Technology Enthusiasts Engineers Club (EUTEEC): Participated in project showcases and industrial visits.

• Passionate about PCB design, electronics repair and tennis.