DERICK OGUTU

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ELECTRICAL AND ELECTRONICS ENGINEER

Instrumentation and Control | Industrial Automation | Embedded Systems.

PROFESSIONAL PROFILE

A highly skilled and versatile Electrical and Electronics Engineer. During my undergraduate studies, I specialized in Instrumentation and Control Engineering which helped me build a strong foundation in industrial systems and optimization. My versatility spans embedded systems and firmware development, industrial automation and software engineering which I took as my associate courses. The unique blend of my technical expertise and hands-on-experience in the multidisciplinary fields enables me to seamlessly integrate knowledge across all domains thus being able to drive innovations and optimize engineering processes.

CORE COMPETENCIES

Industrial Instrumentation and Control: measurement and control of process variables and analysis as well as optimization of control systems**.**

Industrial Automation: Design and implementation of automation systems including PLC, SCADA and DCS as well as writing and optimizing ladder logic and structured text for PLCs. Well conversant with control principles including application of PIDs as well as other control algorithms and design and operation of HMIs.

Embedded Systems: Design and implementation of embedded systems. Proficient in design of multilayer PCBs using KiCad, firmware development and communication protocols including I2C, SPI and UART.

Software Engineering: Conversant with backend web framework (Django) as well as frontend web development technologies including HTML, CSS and React.

Solar Systems: With the experience gained from my final year project on remote monitoring and control of solar plants, I have gained skills in System design and installation of PV systems, System sizing, wiring as well as safety standards of solar installations.

TECHNICAL SKILLS

• Automation Tools: Siemens S7, Rockwell Automation Studio 5000, AutoCad, Schneider Electric

• Microcontroller Programming: ArduinoIDE, STM32CubeIDE, Keil Uvision

• PCB Design: KiCad

• Solar Power: Remote System Monitoring, Solar System Design

• Programming Languages: Python (Django framework), Web programming languages (HTML, CSS)

PROFESSIONAL EXPERIENCE

1. Hardware Embedded Systems Intern

Data Integrated Limited (DIL)- (August 2024 – Present)

    i.   Debug and resolve faults of new and existing PCBs solutions
    ii.   Configure firmware for custom embedded system devices
    iii.   Wiring of GPS, GSM as well Speed Limiters
    iv.   Develop of new hardware solutions inform of PCBs.

2. Electrical Intern- Electrical Maintenance

Unibrain Industries – (June 2024 – August 2024)

i. Repair work of factory machinery and electrical equipment

ii. Installation and handling electrical faults in the workshop

iii. Daily routine maintenance of factory machinery and electrical equipment

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).

    II.   HIGH SCHOOL, KISUMU BOYS: 2015 – 2018
    III.   PRIMARY SCHOOL, MAKUNDA PRIMARY: 2007 – 2014.

PROFESSIONAL TRAINING AND CERTIFICATIONS

• **Software Development**

Power Learn Project (PLP) – Certified, August 2024

Software development, covering python Django, web technologies and database systems. Created and 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.

• **Micro Automation, PLCs and HMI Systems –** Udemy School (ongoing)

• **Embedded Systems and PCB design –** (ongoing)

PROJECTS & ACCOMPLISHMENTS

Solar Plant Monitoring and Control System

• Successfully developed a remote and real-time monitoring and control solar plant system.

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