

David Wainaina

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Date of Birth: 26 December 1993

EDUCATION

2013 – 2017 **BSC** - Dedan Kimathi University of Science & Technology

B.S.C Electrical and Electronics Engineering

* Second Class Honours

2008 – 2012 **A Levels** - Koelel High School

Kenya Certificate of Secondary Education (KSCE)

* 77/84 Points (2nd in Class)

2001 – 2008 Loldia Primary School

Kenya Certificate of Primary Education (KCPE)

* Scored Grade A * Awarded Highschool Scholarship

CERTIFICATIONS AND TRAININGS

29th October – 2nd November 2018: Centurion Systems (Siemens Partner)

Programmable Logic Controllers (PLC) Level 1

26th November – 30th November 2018 : Centurion Systems(Siemens Partner)

Supervisory Control and Data Acquisition (SCADA) Level 1

17th December – 21st December 2018 Course : Centurion Systems(Siemens Partner)

Programmable Logic Controllers (PLC) Level 2

PROFFESIONAL EXPERIENCE

ISG Group

IOT Consultant

Feb 2025 – April 2025

- Supported the ISG Group South Africa Team to automate smart electricity metering solution
- Developed and Implemented Azure Cloud migration strategy for smart meter data from on premise server.
- Implemented invoicing automation using Azure Docker Containers and Cloud Run Functions.
- Developed a road map for future improvements to the smart metering system.

Sushi Hamburg

IOT Consultant

2024 – Now

- Contributed to the design and development of an Arm based automated sushi dispensing machine running on Linux debian, optimizing efficiency in product handling.
- Developed Python-based firmware to control and manage the dispensing system reliably.
- Developed C and C ++ embedded firmware for ESP32 using ESP-IDF to capture images, monitor input status and sync telemetry with server.
- Integrated the sushi dispensing machine operations with the Shopify order fulfillment platform, this ensured we had real-time order data going to the dispensing machines.
- Contributed in training and hosting a machine learning model to identify products by package color, this helped to reliably identify the products before and after collection.

Asterix Softwares Inc*Embedded Systems and Cloud Engineer*

2021 – Now

- Developed Custom Linux Distributions using Yocto, creating seamless software packaging and update infrastructure.
- Developed bash scripts for batch provisioning and updating of IoT Devices. This ensured devices were provisioned seamlessly and remotely updated.
- Led the design and manufacturing of access control hardware device based on ARM architecture using CardSoft Eagle.
- Developed C++ embedded program for SMT32 microcontroller for Access Control connected to Suprema APIs.
- Developed a Python-based firmware for the devices. The firmware stored local data on SQLITE and performed Real-Time communication with server as well as display vital information on an LCD display.
- Integrated the embedded access control system with a custom cloud server via RabbitMQ, enabling seamless data exchange.
- Engineered an embedded hardware solution for elevator control. The hardware was purposed to control elevator through Facial recognition and fingerprint.
- Created a PoE-enabled device with an integrated Ethernet switch, supporting daisy-chaining for multiple access control units.
- Designed an over-the-air (OTA) update infrastructure leveraging Azure Cloud, enabling remote updates and maintenance of IOT devices.

Biotechnica LLC*Hardware Design & Cloud Integration Engineer*

2020 – 2021

- Designed the IoT system hardware and software Architecture ensuring Secure, Reliable and Scalable designs.
- Designed hardware for a hydroponics control system, including a mainboard, EC and pH sensors, and an I2C-based motor driver.
- Developed Python and C++ software to control and manage each component of the hydroponics system.

- Integrated cloud connectivity and implemented tunneling for secure access to device-hosted web servers.

Techno Global Ltd

Hardware Design & Cloud IOT Engineer

2017 – 2020

- Designed IOT products for assets management with various sensors and Wi-Fi capability for asset monitoring.
- Developed Firmware for IOT Devices using Python, C++ and FreeRTOS for an embedded system.
- Developed AWS cloud infrastructure for IOT Devices including Over Air Update (OTA), Data Collection using AWS IOT Core, Data Storage using DynamoDB and SQL and Monitoring with QuickSight.
- Developed ML algorithmic for assets service prediction and Fault Prediction. This was meant to assist create maintenance work orders.

Centurion Systems Ltd

Field Service Engineer

2017 – 2017

- Collaborated on the design, planning, and execution of PLC industrial projects for clients' sites. Applauded for quick troubleshooting of VFDs.
- Developed and conducted industrial simulations using Factory IO to test and optimize systems.
- Contributed to SCADA system design and implementation, enhancing monitoring and control capabilities.
- Executed successful commissioning of PLC projects, ensuring seamless integration and operation.