

# **Sharon Chepngenyo Ngetich**

## **Control and Instrumentation Engineer**

### **Contact**

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### **Profile**

Analytical and mission-driven Control & Instrumentation Engineer with strong expertise in maintenance, process automation, and instrumentation systems. Skilled in preventive and corrective maintenance, troubleshooting, and process optimization across manufacturing and energy systems. Adept at transforming operational data into verifiable insights that enhance system reliability and sustainability, a foundation ideal for Monitoring, Reporting & Verification (MRV) and maintenance data frameworks. Currently expanding expertise in AWS Cloud Computing, Embedded system and IoT for digital monitoring and Control & Instrumentation.

### **Education**

#### **Amazon Web Services (AWS) (Sept 2025 – Nov 2025)**

Cloud Computing – Cloud Practitioner Certification

#### **Jomo Kenyatta University of Agriculture & Technology (JKUAT) (Sept 2020–Apr 2024)**

BSc. Control & Instrumentation Engineering - Second Class Upper

#### **AIC Litein Girls High School (Feb 2016 – Nov 2019)**

Secondary School Education - KCSE B+

#### **Chumo Educational Centre (2012 – 2015)**

Primary School Education – KCPE 392/500

### **Professional Experience**

#### **Maintenance Technician(Control & Instrumentation) – Glacier Products Ltd (Dairyland) (Sept 2024 – Sept 2025)**

- Provided Technical support for PLC and PID controlled production and Refrigeration system and Implemented and troubleshoot PID and PLC control systems to enhance process reliability.
- Conducted mechanical, electrical, HVAC and instrumentation maintenance for production and refrigeration systems.
- Prepared Technical Documentation, Maintenance Reports, Work Records & Monitored and analyzed KPIs (MTTR, MTBF, availability) to improve maintenance strategies.
- Ensured compliance with QMS, FSMS, and OSHA standards while optimizing maintenance schedules.
- Worked closely with internal teams, suppliers and service providers to resolve technical issues and Led root cause analysis (RCA) and Operational Excellence (OpEx) initiatives to reduce downtime.
- Prepared and reviewed technical quotations for maintenance spares, instrumentation components, and service support in coordination with suppliers and internal teams.
- Supported cost evaluation and comparison of supplier quotations to ensure technical compliance and value for money.

### **Industrial Systems Instrumentation & Automation (ISA) Training (Jul 2024 – Sept 2024)**

- Programmed Siemens S7-1200 PLCs and HMI using TIA Portal for industrial automation projects.
- Designed and wired control panels integrating controllers, sensors and actuators for real-time monitoring.
- Applied process logic design, P&ID and PFD interpretation and troubleshooting to improve automation system performance.

### **Instrumentation & Control Attachee – Kenya Electricity Generating Company (KenGen) (May – Jul 2022)**

- Calibrated and verified pressure, temperature, and level transmitters using HART communicators and used Meggar meter for insulation test.
- Maintained accurate technical records and store inventory records ensuring traceable data integrity.
- Conducted loop checks, troubleshooting, installation, repair and assisted with instrumentation maintenance in geothermal systems.

## **Projects**

- **Lifecycle Data Monitoring Dashboard:** Built Excel dashboard for maintenance KPIs (MTTR, MTBF).
- **Smart Farm IoT Monitoring System:** Developed ESP32 IoT system using Blynk for remote environmental monitoring.
- **STM32 32-Relay Control System (FreeRTOS + Modbus RTU/TCP):** Designed a 32-relay STM32 controller with Modbus TCP/RTU and FreeRTOS multitasking.
- **Automated Water Transfer System (PLC/HMI):** Programmed Siemens PLC for automated control.
- **PID Integration Using Thermocouple Instead of RTD:** Adapted PID control using thermocouple sensors.
- **AutoCAD Design:** Created optimized chiller and cold room floor plans.

## **Technical Skills**

- **Engineering Fields & Systems:** Control & Instrumentation | Mechanical | Electrical | HVAC
- **Sensors:** Pressure | Temperature | Flow | Level
- **Maintenance & Reliability:** Preventive & Corrective Maintenance | RCA | KPI Tracking | Equipment Diagnostics | MTTR, MTBF & MTTF
- **Automation & Control:** PLC | DCS | SCADA | HMI | PID | VFD
- **Embedded Systems:** STM32 | ESP32 | Raspberry Pi | FreeRTOS | Modbus RTU/TCP
- **IoT & Cloud:** AWS Cloud Computing | ESP32 | Arduino uno & nano | Blynk | Sensor Networking
- **Reporting & Data Analysis:** Excel | PPT | Analytics | RCA | Tacking & Reporting | Dashboard Design | MRV | Quotation preparation and evaluation | Supplier Coordination & Cost Comparison
- **Compliance:** OSHA | FSMS | QMS | LOTO
- **Programming:** Python | C++ | MATLAB | Bash scripting | Linux | SQL
- **Software:** MATLAB | Simulink | Proteus | TIA Portal | STM32CubeIDE | AutoCAD

## **Soft Skills**

Analytical Thinking | Technical Writing | Collaboration | Problem-Solving | Communication | Time Management | Teamwork | Eager to Learn

## **References**

Available upon requests