

ERNEST SAMUEL

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Professional Summary

I am a results-oriented professional with strong skills in **problem-solving**, **data analysis**, and **team collaboration**. My background in **control systems**, **automation**, and **operational management** has given me a solid foundation in using data to drive performance improvements and solve complex challenges. I thrive in **dynamic environments**, working with diverse teams to deliver innovative solutions and clear recommendations. .

I thrive on providing organization's-based solutions through effective leadership and management. My other key areas of expertise include Health, Safety and Environmental (HSE), Power and Energy, CAPEX Management, Operational Excellence, and Sustainability.

I possess strong leadership and interpersonal skills and excel in providing initiative and implementation of structures which progressively drive organisational Key Performance Indicators (KPI) and foster a culture of innovation and continuous improvement.

Key Skills

- Leadership
- Decision making
- Strategy & Planning
- Project management
- Managing Pressure
- Strategic Problem Solving
- Effective communication skill
- Control Systems (DCS & PLC)
- Sustainable Energy Management
- Instrumentation & Process Control
- Commissioning & Preventive Maintenance
- Algorithms Analysis
- Machine Learning & AI
- Internet Technology
- Systems Programming
- Microsoft Suit, SAP, TIS, Github,
- Unity Pro, Prosoft, Vijeo Citect, UAG &
- Technical Drawing
- Interpretation
- Autodesk Inventor, Solidworks, Fusion 360, P&ID & NX
- Matlab, Python, C++ & HTML
- Asset Integrity & Process Safety

Education

Swiss Federal Institute of Technology Zurich, Switzerland

Masters of Advanced Studies (MAS) in Mechatronics Engineering

Jan. 2022 – Dec. 2024

Expected Grade: 5.35/6

- Mathematical Tools: Advanced Linear Algebra & Multivariate Calculus
- Signals & Systems
- Advanced Communication System & IoT
- Computer Programming
- Embedded Systems
- Computational Methods
- Digital Electronics Circuits
- Dynamics Mechanics
- Manufacturing Processes
- Thermofluids
- Materials for Engineering
- Static & Solid Mechanics

Ashesi University, Ghana

Masters of Science in Mechatronics (MSc.) Engineering

Jan. 2022 – Dec. 2024

Expected Grade: 3.5/4

- Data Analysis & Machine Learning
- Risk Analysis & Reliability Assessment
- Energy Systems & Mobility
- Leading Teams
- Investment Appraisals & Cost-Effectiveness Analysis
- Corporate Responsibility & Sustainability
- Development Economics
- Robotics & Mechatronics
- Optimal Control Systems
- Systems ID & Modelling
- Sustainable Engineering
- Renewable Energy Technology
- Product Development
- Applied System Engineering

University of Nigeria Nsukka, Nigeria

Bachelor of Engineering in Mechanical Engineering

Oct. 2014 – Sep. 2019

Grade: 4.18/5

- Fluid Mechanics
- Engineering Law and Management
- Thermodynamics
- Strength of Materials
- Engineering Mathematics
- Energy Conversion Principles
- Engineering Drawings
- Electrical Engineering
- Technology Development Policy
- Engineering Analysis
- Heat and Mass Transfer
- Engineering Design
- Engineering Material Selection
- Measurement & Instrumentation
- Automatic Control

Experience

Lafarge Africa Plc., a Member of Holcim (Cement Company)

July 2024 – Present

Corporate Industrial: Automation & Instrumentation Engineer - Masters Intern (On-Site)

Ewekoro, Ogun State, Nigeria.

- Achieved a key milestone within the **first month** of joining by developing and implementing an **AI-powered automated risk assessment system**. This reduced risk assessment time by **30%** and improved accuracy across multilingual environments while ensuring proper documentation for audit and compliance purposes, enhancing transparency and audit readiness.
- Optimized system reliability by maintaining **instrumentation systems** (load cells, pressure/temperature sensors, transmitters, etc.), achieving a **Net Availability Index (NAI) of 98%** and ensuring **Mean Time to Failure (MTTF)** goals were met. Utilized **SAP** to manage maintenance notifications, work orders, and technical reporting.
- Programmed and configured **PLCs (Schneider Unity Pro XL, Prosoft, Allen-Bradley)** and **SCADA/HMI systems** for seamless data exchange via **Ethernet, Modbus, and Profibus DP**, improving **process data accuracy** by 25%. Also developed the **Standard Operating Procedures (SOPs)** for the PLC systems to ensure consistency and smooth operation.
- Led instrumentation and integrated controls for the installation of **ABB variable speed drives** for a medium voltage motor (**6.6MW**) and **Hot Gas Generator with burner management systems (BMS)**. These two separate CAPEX projects are worth Over **₦1 Billion** together. Collaborated efficiently with **OEMs (ABB and Fives Pillard)** to ensure smooth project execution, improving system reliability by 15% and achieving **zero control system failures** during commissioning.
- Ensured accurate documentation and reporting using **TIS** for technical trend analysis and compliance audits.

Kwame AI (AI Technology Company)

May 2023 – July 2024

Data Preprocessing Engineer (Remote)

Accra, Ghana

- Developed and implemented **Python scripts** to convert textbooks into **JSON, TXT, and CSV** formats, improving data accessibility by **65%** for machine learning training datasets.
- Contributed to the **NSMQ AI GitHub** repository, supporting **open-source machine learning** projects by ensuring reproducibility and collaboration through detailed scripts and documentation.
- Created a **Python video cropping script** to segment videos by subjects or riddles, reducing manual editing time by **83%**, while following **ML engineering** and data preprocessing best practices.

ICE Commercial Power (Renewable Energy Company)

Jan. 2021 – Jan. 2022

Operations & Maintenance Engineer (Hybrid)

Niger Delta Region, Nigeria

- Managed daily operations and maintenance of **10 mini-grid solar plants** across Delta, Ondo, and Benin, ensuring an average of **95.5% system uptime** and reliable energy generation.
- Installed and troubleshooted **smart meters (Stemaco)**, resolving off-taker issues via **remote monitoring systems** and improved issue resolution time by **25%**.
- Collected and analyzed **daily energy generation and consumption data**, delivering **performance reports** and recommending optimizations that increased efficiency by **13%** across all sites.

Harry World Nig. Ltd. (Oil and Gas Servicing Company)

Jan. 2020 – Nov. 2021

Instrumentation & Controls Engineer Trainee (On-Site)

Port Harcourt, Rivers State, Nigeria

- Performed comprehensive installation of **field instruments** for **Oil & Gas companies**, ensuring accurate data for critical processes.
- Integrated **emergency shutdown (ESD)** systems with leak detection sensors for **oil spillage control**, improving response time and reducing environmental impact.
- Managed the installation and troubleshooting of **Distributed Control Systems (DCS)** and **PLCs**, resolving system faults in **Profibus** and **fiber optics networks**, minimizing downtime and optimizing process automation.

Ferotex Construction Company (Construction Company)

April 2018 – Oct. 2018

Mechanical Engineer Intern (On-Site)

Enugu State, Nigeria

- Assisted in servicing and maintaining **heavy-duty Caterpillar machines** and trucks, ensuring **operational readiness**.

- Managed **spare parts inventories**, diesel, and engine oil usage, optimizing resource allocation and cutting wastage by **10%**.
- Reported daily to the **Head of the Mechanical Department**, providing updates on machinery status and maintenance activities.

University of Nigeria ICT / INNOVATION CENTRE, (ICT Company)

Aug. 2017 – Sep. 2017

Mechanical Engineer Intern (Vacation Job)

Enugu State, Nigeria

- Monitored **WIFI connectivity** and implemented downtime optimization protocols, reducing system downtime by **21%**, and regularly reported performance metrics to management.
- Designed and managed **Google Forms** for efficient **e-documentation**, streamlining data collection and processing.
- Digitized and uploaded **physical records** into **e-records** using **Microsoft Suite** for the Department of Education Foundation, enhancing document accessibility and reducing processing time by **25%**.

Courses and Certifications

SAP ERP Essential Training; SAP MM · SAP FI · SAP PM | LinkedIn Learn

April 2024

- Learned to efficiently navigate SAP GUI, use transaction codes, manage user settings, and customize the SAP easy access screen for enhanced productivity.
- Acquired skills in handling master and transactional data, generating and customizing reports, applying filters, and exporting data for decision-making in SAP.

Technical Sales; The Role Of Sales Engineer | LinkedIn Learn

May 2022

- Acquired expertise in technical sales techniques.
- Achieved proficiency in contract closure techniques.
- Gained proficiency in developing marketing strategies and planning skills.

Soft Skills Training | Jobberman (Coursera Course)

March 2021

- I gained skills in effective team collaboration and communication, which enhance my ability to foster a positive and productive work environment.
- I improved my emotional intelligence, leading to better interpersonal relationships and stronger leadership abilities in guiding teams toward achieving objectives.
- I developed critical thinking and creative problem-solving skills, enabling me to approach challenges with innovative solutions and make informed decisions as a leader.

Autodesk Inventor; CAD Design Skills | LinkedIn Learn

May 2022

- Up-skilled in Autodesk Inventor 2022, including 3D modelling, parts assembly, and technical documentation drawing.
- Up-skilled in creating complex 3D models and assemblies, ensuring precision and accuracy in design.

Solar Engineer Trainee | Energy Talent Company

July 2020 –March 2021

- Completed over 600 hours of online training through ETC's Solar PV Foundational and Specialization courses, gaining in-depth knowledge of solar energy systems.
- Participated in hands-on projects focused on Solar Design and Installation, applying practical skills in real-world scenarios.
- Successfully completed a six-week apprenticeship at ICE Commercial Power, gaining experience in Off-takers Relations, Energy Audits, and Solar Systems Design, Installation, and Maintenance.

Energy Transition; Innovation Towards a Low-Carbon Future | IFP SCHOOL-COLLEGE, FRANCE

April 2021

- Amongst 32% of 11,429 candidates, to complete five weeks of MOOC on Energy Transition and obtain the Certificate.

- I gained insights into the challenges of renewable energy, including floating offshore wind turbines, and the importance of a low-carbon electricity mix, fostering innovations for a sustainable energy future in response to global energy demand.
- I learned about the significance of geothermal energy, carbon capture and storage (CCS), and hydrogen production in reducing greenhouse gas emissions and achieving decarbonization while also addressing the cost issues and risks associated with low-carbon technology minerals.
- I developed skills in integrating bio-sourced chemicals and fuels, energy storage solutions, and IoT technology for energy efficiency, as well as methodologies like pinch analysis and waste heat exchangers to optimize energy use in oil and gas exploration and distribution.

National Youth Service Corps | NYSC Certificate

Nov. 2020 – Oct. 2021

- Led a platoon of individuals from diverse backgrounds and cultures, utilizing strategic leadership to drive significant milestones and achieve high performance in various competitions.
- Achievements as Platoon Leader (RV/20B stream 1A, Platoon 1):
 - * 1st place in Volleyball, Catching the Train (male and female), Centipede Walk (male and female), Fashion and Design (SAED), and Female Sprint Race.
 - * 2nd place in Football, Kitchen/Cooking Competition, Debate Competition (GDS), and Mr. Macho.
 - * 3rd place in Female Sack Race.
- Attended entrepreneurship workshops and skill acquisition programs focused on paint production.

The COSHH Risk Assessor Certification | The Knights Of Safety Academy

October 2019

- Demonstrated sufficient knowledge of hazardous substances and how they can affect the workplace.
- Proficiently demonstrated a comprehensive understanding of the risk assessment process, encompassing its key principles and methodologies.
- Understanding how the risk assessment process aids in implementing employee health protection measures.

Leadership and Awards

Holcim Scholar

Dual Masters Degrees Award to study Mechatronics Eng.

Jan. 2022 – Present

HOLCIM GROUP, SWITZERLAND

Graduate Student Award

Most Engaging Student of the year

Jan. 2022 – Dec. 2023

Ashesi University, Ghana

International Students Association (ISA)

Vice President

Sep 2022 – Aug 2023

ASHESI UNIVERSITY, GHANA

Army_Y Club

Vice President

Sep. 2022 – Aug 2023

Ashesi University, Ghana

NYSC Platoon Leader

Batch B Stream 1 Platoon 1 Leader

Nov. 2020 – Oct. 2021

Rivers State, Nigeria

Engineering Design Group Leader

ME511 Group Six Project Leader

First Semester 2019

University of Nigeria Nsukka, Nigeria

Reference

Available Upon Request