

## Contact

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## Top Skills

Data Modeling  
Microservices  
Systems Engineering

## Languages

Sotho  
Ndebele  
Shona  
English

## Certifications

Data Engineering - Data Principles

## Honors-Awards

Best Student in Theory

# Aurthur Musendame

Data Scientist | Full Stack Developer. Building innovative solutions with data and technology

Harare, Zimbabwe

## Summary

A Software Developer by heart, and a competent Data Analyst.

I hold a Bsc Honors in Statistics and Operations Research where i draw my data analytics skillsets taking data through ETL pipelines to story telling.

I picked up software development along the way through MOOCS, research, and maybe, just maybe i might seek a proper qualification for it. I develop full stack software using a number of technologies - java spring boot, python django and fastapi, vuejs, and angular. I prefer web application development to website development.

If you feel I am possibly right fit for you, dont hesitate to get in touch. I am at your disposal and feel free to contact me at any given time.

I look forward to working with you and seeing you move from A to B.

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## Experience

### UZ-CTRC

Senior Software Developer  
October 2024 - Present (4 months)  
Harare, Zimbabwe

1. Development of Clinical Laboratory Support Systems (Java - JHipster, springboot, Python - Django, FastAPI, Angular , React - zustand, nextjs)
2. Deployment of Systems using VMWare and Zend
3. Mobile application development using Flutter

Biomedical Research and Training Institute  
4 years 7 months

Senior Software Developer (II)  
October 2023 - September 2024 (1 year)  
Harare, Harare, Zimbabwe

I oversee junior staff and manage several critical software systems within the laboratory, focusing on automating processes and improving efficiency. My key responsibilities include the design and development of customized **\*\*Laboratory Information Management Systems (LIMS)\*\*** tailored to meet specific workflows.

Key systems I manage include:

- Senaite LIMS: Customized to meet evolving user needs, resulting in high satisfaction and increased usage.
- Electronic Sample Tracking Application (ESTS): Deployed mobile and web solutions for efficient sample tracking.
- Downtime LIMS: Developed a system to ensure data integrity during mainline system downtimes.
- Central Data Repository & Dashboard: Created a repository and dashboard for data-driven decision-making from multiple LIMS instances.
- EHR-LIMS Integration: Streamlined lab request and result processes between LIMS and EHR, improving efficiency.
- Point of Care LIMS: Provided LIMS functionality for remote sites, enhancing data management and operational efficiency.

### Full Stack Software Developer

March 2020 - September 2023 (3 years 7 months)

Zimbabwe

I develop and implement cutting-edge systems to automate various processes within the laboratory.

One of my key responsibilities is the design and development of LIMS system for managing patient and sample information, test requests, and results working with laboratory personnel to understand their specific needs and requirements, and then create customized LIMS solutions tailored to their workflows.

The systems developed encompass:

1. Senaite LIMS (Plone, Python, TAL) - open source

Achieved a seamless and performant system by customizing Senaite LIMS to meet dynamic and evolving user needs.

Resulted in high user satisfaction and increased daily usage of the system.

2. Electronic Sample Tracking Application (Java, Angular, Flutter)

Successfully deployed and implemented the ESTS mobile, web, and backend services.

Enabled efficient sample tracking, enhancing workflow management and reducing errors.

### 3. Downtime LIMS. (Java, Angular)

Developed a robust system to be used during mainline system downtimes. Seamlessly synchronized data back to the main system, ensuring data integrity and continuity of operations.

### 4. Central Data Repository, Dashboard (Java, Python, Angular, Apache e-charts, Ant-Charts, Rabbit MQ)

Established a central data repository to store data from multiple Senaite LIMS instances.

Developed a dashboard system to visualize various indicators using data from the central repository, enabling data-driven decision-making.

### 5. EHR-LIMS Integration (Java, Python, Angular, Fhir-HL7, HapiFhir, OpenHIE, OpenHIM)

Enabled seamless ordering of lab requests directly from EHR into LIMS and dispatching laboratory results from LIMS into EHR, improving workflow efficiency and reducing manual data entry.

### 6. Point Of Care LIMS (Java, Angular)

Provided access to essential LIMS functionalities for sites without direct access to the mainline LIMS system, enhancing their efficiency and data management capabilities.

## Mpilo Central Hospital

6 years 6 months

### Microbiology Quality Coordinator

May 2018 - March 2020 (1 year 11 months)

Bulawayo, Bulawayo Province, Zimbabwe

As a Microbiology Quality Coordinator, I worked closely with the Laboratory Quality Officer to ensure compliance with ISO 15189:2012 standards and enhance the microbiology department's quality management systems. I coordinated quality assurance programs, led the development and revision of Standard Operating Procedures (SOPs), and conducted internal audits to identify improvements. Additionally, I supported staff training on quality protocols, monitored quality indicators, and facilitated external audits.

Key Achievements included developing comprehensive SOPs and leading internal audits that resulted in significant improvements in laboratory operations and regulatory compliance.

### Medical Laboratory Technologist

October 2013 - March 2020 (6 years 6 months)

Zimbabwe

My primary responsibility was to ensure the delivery of vital diagnostic and treatment information. This was achieved through the meticulous and accurate performance of laboratory tests on patient samples.

While my primary focus revolved around Microbiology and HIV Molecular diagnostics, I also extended my expertise to encompass other departments such as Hematology, Chemistry, and Blood Bank on occasion.

I actively participated in the implementation of ISO 15189 standards and quality control measures within the Mpilo HIV Lab, which ultimately resulted in the lab's successful accreditation.

Additionally, I served as a super user for both the Senaite LIMS and ePOC LIMS systems, offering training and support to both Laboratory and Nursing personell.

Moreover, I developed a data acquisition tool in Python for Senaite LIMS, enabling data retrieval through APIs.

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## Education

### Midlands State University

Bachelor of Commerce Honors In Information Systems degree (HINFOSYS), Computer/Information Technology Administration and Management · (February 2022 - December 2024)

### University of East London

Masters in Data Science, Computer Software Engineering · (September 2021 - December 2024)

### National University of Science and Technology

Statistics and Operations Research, Decision Sciences and Business  
Statistics · (2014 - 2018)

### Chitungwiza Central Hospital

State Certified Medical Laboratory Technician, Medical Laboratory  
Sciences · (2011 - 2013)

### Corporate Quality Systems

ISO 15189 Implamentation, Clinical Laboratory Science/Medical Technology/  
Technologist · (2012 - 2012)