CALEB MAKAFUI SENYAH

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Education

Front-End Developer & AWS Cloud Solutions Architect   **October 2023**
Azubi Africa   Accra, Ghana

Bachelor of Science in Engineering (Biomedical)   **November 2022**
University of Ghana   Accra, Ghana

Project Experience

Machine Learning Project: Predicting Aromatase Inhibitors. Page 124.
- Spearheaded a groundbreaking project focused on utilizing machine learning algorithms to predict the efficacy of aromatase inhibitors in treating breast cancer among postmenopausal women.
- Developed and implemented innovative machine learning models to identify active aromatase inhibitors, addressing a critical gap in the field and contributing to advancements in breast cancer treatment strategies.

Frontend Development Project: Job Listing Website.
- Carried out a responsive web design project using HTML, CSS, Tailwind and React, ensuring a seamless user experience across various devices. Ensured responsive design and deployed the frontend with Netlify.

Azushop | Full-Stack E-commerce Platform

- Developed and deployed a complete e-commerce application with separate client and admin dashboards.
- Engineered a responsive and scalable frontend using Next.js, TypeScript, and MongoDB, with styling from **Shadcn** and **Tailwind CSS**.
- View the client-side here: **Azushop Client**
- View the admin-side here: **Azushop Admin**

Gclient | Full-Stack Learner Application Platform

- Built a comprehensive learner application platform with dedicated client and admin portals.
- The application was developed using **Next.js, TypeScript, MongoDB, Shadcn**, and **Tailwind CSS** to ensure a responsive and production-ready frontend.
- Explore the learner-side here: **Gclient Learner**
- Explore the admin-side here: **Gclient Admin**

ThermoTrack | Laboratory Refrigerator Monitoring System

- **Led the development of a full-stack application** to monitor and manage temperature logs for sensitive lab chemicals, **utilizing AI for rapid prototyping and code generation**.
- **Engineered a secure, compliant system** with user authentication, a Firebase database, and an audit trail for data deletion.

- **Designed a dynamic interface** featuring monthly charts, data grids, and AI-powered insights for predictive maintenance. View the project here: **ThermoTrack**

Trotro | Real-Time Transit Dispatch Platform

- **Led the development of a full-stack, real-time dispatch platform** for Ghana's trotro system, **utilizing AI for code generation and development acceleration**.
- **Engineered a comprehensive system** using **Firebase Authentication** and **Firestore** to manage real-time data sync, user roles, and push notifications.
- **Integrated generative AI** to provide optimized dispatch suggestions to drivers and station dispatchers, improving route efficiency and passenger matching. View the project here: **Trotro**

Professional Experience

Trainee Frontend Developer & AWS Cloud Solution Architect   November 2022 – October 2023
Azubi Africa   Accra, Ghana
- Designed and deployed 3 interactive UIs, enhancing engagement by 20%.
- Implemented the adoption and use of source control systems, notably Git, across 3 React application projects, ensuring version control, collaboration, and codebase integrity.
- Architected highly available, fault-tolerant, secure, cost-effective and scalable AWS cloud architectures for over 20 use cases across different domains.

Field Service Biomedical Engineer   April 2025 – Present
Alos Paraklet Health Care Ltd   Accra, Ghana

- **Field Service & Technical Support:** Delivered on-site maintenance and repairs for 50+ advanced medical devices (e.g., diagnostic analyzers, centrifuges, POCTs) across 30+ healthcare facilities, achieving a 95% issue resolution rate on first visit.
- **Specialized Equipment Expertise:** Conducted over 50 preventive maintenance procedures and training, reducing equipment downtime by 30% and improving operational efficiency in clinical laboratories..

In House Biomedical Engineer   February 2024 – Present
Mother of God Hospital   Ashaiman, Ghana

- **Troubleshooting and Repair Expertise:** Diagnosed and resolved issues in medical devices like autoclaves, monitors, microscopes, and analyzers. Attached is a link to my **Maintenance Report**.
- **Preventive Maintenance Implementation:** Proactively initiated and implementted preventive maintenance programs for critical medical equipment, such as Chemistry Analyzers, to ensure optimal performance, minimize downtime, and enhance patient safety.

Trainee Frontend Developer & AWS Cloud Solution Architect   November 2022 – October 2023
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Graduate Trainee Electrical Engineer   June 2023 – October 2023
Ghana Ports and Harbors Authority, Electrical Engineering Department   Tema, Ghana

- Developed 5 project plans, budgets, and timelines, and assigned tasks to personnel based on skill sets achieving a 95% customer satisfaction rate.
- Managed telecom and broadcasting systems, ensuring 90%+ uptime for port operations.

Graduate Trainee Biomedical Engineer   **December 2022 – June 2023**

[Ghana Ports and Harbors Authority](#), [International Maritime Hospital](#)   Tema, Ghana

- Conducted daily maintenance of oxygen systems on dialysis machines, including thorough cleaning and sterilization, within a dialysis unit housing 2 wards and an oxygen plant with 18 manifolds.
- Optimized medical equipment troubleshooting; reduced failures by 25% through scheduled maintenance.

Volunteer

Applications Manager   **January 2020 – Present**

Rhema Outreach Church, Love Temple   Tema, Ghana

- **Oversee Church Management Software (ChMS):** Manage and optimize ChMS platforms like Planning Center, FellowshipOne, or Breeze. These systems handle member records, donations, volunteer coordination, events, and communication.
- **Application Updates and Maintenance:** Ensure that all applications, including accounting software, communication platforms, and streaming tools, are up to date and functioning properly.
- **Technical Support:** Provide support to church staff and volunteers who use various software applications, helping them resolve issues and improve efficiency.

Technical Skills

- **Frontend:** HTML, CSS, JavaScript, Tailwind CSS, React, Next.js
- **Backend & DB:** MongoDB, REST APIs
- **Cloud & DevOps:** AWS, Git, GitHub, Vercel

- **Tools:** Figma, Visual Studio Code, Jupyter Notebook, Blender, Siemens Solid Edge, Atmel Studio
- **Others:** Technical writing, Project Planning, Medical Equipment Repair

Certifications

- [AWS Certified Cloud Practitioner (AWS Certificate)](#)
- [Introduction to Python (Data Camp Certificate)](#)
- [Introduction to Mobile Development (META)](#)
- [AI For Everyone (Deep Learning.AI)](#)
- [DxH 500/520/560 Service Training](#)