

KALETISIDIK KELAYNEH ASEFAW

Digital Health Developer & Health Informatics Specialist

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Professional Summary

Results-driven Health Informatics professional and full-stack developer with hands-on experience designing, building, and deploying clinical information systems—including a functional Custom EMR and a Clinical Decision Support System (CDSS) powered by machine learning (LightGBM). Experienced across three clinical environments (referral hospital, district hospital, and primary care health center), with direct exposure to DHIS2, EMR, eCHIS, and IHRIMS platforms. Combines clinical workflow understanding with backend and database engineering skills to deliver digital health solutions that are medically accurate and technically reliable.

Education

Debre Berhan University

Bachelor of Science in Health Informatics

CGPA: 3.68 / 4.00 — Exit Exam: 76/100

June 2022 – March 2026

Debre Birhan, Ethiopia

Technical Skills

Programming Languages: Python, PHP, JavaScript (ES6+), C++, Java
Web Technologies: Node.js, Express.js, REST APIs, Socket.io, HTML5, CSS3
Databases & Systems: MySQL, SQL, PostgreSQL, database schema design
Health Systems: DHIS2, OpenMRS / Custom EMR, eCHIS, IHRIMS, SmartCare
Data Science & ML: LightGBM, Pandas, NumPy, Scikit-learn, SPSS
Development Infrastructure: Git, GitHub, Linux/Windows Server, Apache Tomcat, Network setup

Key Digital Health & Software Projects

Clinical Decision Support System (CDSS – ANC)

Python, LightGBM, Flask, MySQL

Research & Development Project

- Developed an AI-assisted ANC clinical decision support tool with integrated WHO diagnostic guidelines.
- Built a tabular machine learning model using **LightGBM** to evaluate and predict pregnancy-related anemia risk.
- Configured an interactive web dashboard using Python Flask and JavaScript for seamless clinical querying.
- Implemented real-time drug safety verification algorithms and structured EMR data synchronization.

Custom EMR System – Hakim Gizaw University Hospital

PHP, Node.js Socket, MySQL, JS

Solo Capstone Development Project

- Engineered a multi-language EMR system supporting patient registration, clinician portal, and telemedicine.
- Designed a robust database schema in MySQL to manage patient registries and prevent profile duplication.
- Deployed real-time appointment updates using Node.js Sockets and built automated reporting queries.
- Integrated an offline-fallback capability to ensure database integrity during connectivity drops.

Telegram Job Aggregator Mini App & Bot

Python, Telethon, Telegram Bot API, SQLite

Independent Software Development Project

- Engineered a Telegram Bot integrated with a Telegram Mini App (TMA) to parse, filter, and aggregate job listings.
- Programmed background scraping scripts using Telethon to automate dataset collection and indexing.
- Designed a clean, mobile-optimized web view dashboard inside the Telegram client interface.

Clinical Experience & Attachments

Hakim Gizaw Hospital*Health Informatics Student Attachment*

Debre Birhan, Ethiopia

09/2024 – 02/2025

- Maintained and monitored the hospital's database-level EMR connections, troubleshooting user access issues.
- Operated **IHRIMS** (Integrated Human Resource Information Management System) to organize and extract staff data.
- Extracted, cleaned, and submitted monthly health indicators to the Addis Ababa Health Bureau via **DHIS2**.

Debre Berhan Referral Hospital*Health Informatics Student Attachment*

Debre Birhan, Ethiopia

09/2025 – 11/2025

- Supported system administration of EMR modules across outpatient, pharmacy, laboratory, and ward registries.
- Handled data validation pipelines for monthly aggregate reporting inside **DHIS2**, resolving tally sheet discrepancies.
- Conducted database backups and supported LAN configuration updates for new department terminals.

Ayer Tena Health Center*Health Informatics Research Attachment*

Debre Birhan, Ethiopia

12/2025 – 01/2026

- Evaluated data flow pathways using the **eCHIS** application used by community Health Extension Workers.
- Supervised data cleaning of primary health registers (maternal, immunization) to prepare paper-to-digital DHIS2 exports.
- Co-authored a research project investigating eCHIS adoption barriers using SPSS for data verification.

Certifications

- **DHIS2 Aggregate Data Capture Certificate** – HISP / University of Oslo
- **Data Analysis Certificate** – Udacity
- **eSHE Digital Health Training Certificate** – Ethiopian Ministry of Health
- **Basics of Web Development & Coding Specialization** – Coursera