

# Binyam Mulat Abegaz

## Full Stack Engineer

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### 🎓 EDUCATION

#### Coding School

Africa to Silicon Valley

11/2023 – 11/2024 | Addis Ababa, Ethiopia

- Solved more than 800 problems on Leetcode and codeforce and spent over 1,000 hours of DSA training

#### BSc in Mechatronics Engineering

Addis Ababa Science and Technology University

05/2022 – 06/2026 | Addis Ababa, Ethiopia

- Relevant Courses: Introduction to Programming (cpp), Object Oriented Programming, Machine Learning, Mechatronics System, Computer Vision, Numerics (Computational Methods), Robotics, Embedded Systems

### 👛 PROFESSIONAL EXPERIENCE

#### Ai and Machine-Learning Intern

iCog Labs

01/2025 – 04/2025 | Addis Ababa, Ethiopia

- Developed a bioinformatics agent by building a **custom MCP server** to leverage the BioBlend library and re-architecting its backend into a scalable FastAPI service with dynamic multi-LLM (Gemini, OpenAI, Groq) support, designed to handle up to **1,000 concurrent requests**.
- Developed a platform using React to integrate and test **advanced genetic data visualization** platforms, including JBrowse and LocusZoom, validating the functionality of over **100 of their integrated tools** for research applications.
- Applied knowledge of **regression, classification, clustering**, and neural networks from comprehensive training modules to successfully deliver on **10+** machine learning projects.

#### Software Engineer Backend Intern

Eskalate LLC

07/2024 – 08/2024 | Addis Ababa, Ethiopia

- Coordinated a cross-functional **team of 5 engineers** to design and implement multiple endpoints using the **Gin framework** and **MongoDB** for a cloud-based application.
- Engineered secure authentication mechanisms by implementing **JWT and OAuth protocols**, which decreased unauthorized access attempts and strengthened overall system security,
- **Applied Uncle Bob's Clean Architecture** principles, developing **unit tests** for all 3 layers of the system, which increased code reliability, maintainability, and scalability, leading to a reduction in bug-related downtime.

#### Lead Backend Engineer

Enmamar

03/2025 – 05/2025 | Addis Ababa, Ethiopia

- Architected and developed a full-featured e-learning platform using **FastAPI**, designing a clean and scalable backend with a service-repository pattern for high performance.
- Implemented a comprehensive security system with **JWT authentication**, secure hosting, and live streaming via **BunnyCDN**,

### 📁 PROJECTS

#### Info-Stream

AI-driven evolution of real-time message filtering for Telegram.

08/2025 – 10/2025

- Built a **real-time message monitoring** and alerting system using a personal Telegram account as listener and **bot as user interface**, transforming 100+ high-volume channels into personalized semantic intelligence feeds
- Integrated Google Gemini API to generate **real-time vector embeddings** for every incoming message; enabled **semantic similarity search** via PostgreSQL + pgvector, delivering **context-aware alerts** based on natural-language user subscriptions.
- Designed durable **task queue** in PostgreSQL to **prevent message or subscription loss**, ensuring 100% reliability during high load or restarts..

#### Hyprland AI Assistant

Copilot for Linux

10/2025 – 10/2025

- Engineered a **native AI desktop assistant** to eliminate workflow friction, reducing the time and steps for common AI tasks (e.g., code generation, image analysis) by over **75% compared to browser-based** alternatives.
- Developed the core application in **Golang**, utilizing the **Flyt framework** to structure agentic logic and manage conversational state, including **multimodal** (text, image, web search) interactions with **Google's Gemini API**.

### 🧠 SKILLS

MongoDB, PostgreSQL, Golang, Gin Framework, Django, Arduinio, Git/Github, CICD, C, C++, React, Typescript, PyTorch, Scikit-learn, PHP, Laravel