Binyam Mulat Abegaz

Full Stack Engineer | AI Automation Expert

✉ binyammulat244@gmail.com 📞 +251966934381 📍 Addis Ababa, Ethiopia 🔗 Website ⬡ GitHub

🎓 EDUCATION

Coding School   11/2023 – 11/2024 | Addis Ababa, Ethiopia
Africa to Silcon Valley
- Mastered advanced Data Structures and Algorithms and backend engineering methodologies through a rigorous technical fellowship

BSc in Electromechanical Engineering   05/2020 – 06/2024 | Addis Ababa, Ethiopia
Addis Ababa Science and Technology University
- Relevant Courses: Introduction to Programming (cpp), Object Oriented Programming, Machine Learning, Mechatronics System, Computer Vision, Numerics (Computational Methods), Robotics, Embedded Systems

💼 PROFESSIONAL EXPERIENCE

AI system engineer   10/2025 – 11/2025 | Addis Ababa, Ethiopia
Costrym ✎
- Architected the core backend infrastructure using Laravel to orchestrate **autonomous multi-agent workflows**, enabling the system to reason through complex financial data for cost optimization.
- Engineered a hybrid agentic architecture using Laravel, Laragent, and Vizra, orchestrating a multi-agent system capable of autonomously categorizing and analyzing 1000s of financial transaction records.
- Developed a specialized **microservice using FastAPI** and **LangChain with Model Context Protocol (MCP) support**, enabling standardized, high-performance context exchange between the LLMs and external data tools.

AI and Machine-Learning Intern   01/2025 – 04/2025 | Addis Ababa, Ethiopia
iCog Labs ✎
- Developed a **bioinformatics AI 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
- 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   07/2024 – 08/2024 | Addis Ababa, Ethiopia
Eskalate LLC ✎
- 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.

📁 PROJECTS

Info-Stream ✎   08/2025 – 10/2025
AI-driven evolution of real-time message filtering for Telegram.
- 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.
- **Engineered a fault-tolerant queuing system** using PostgreSQL, which maintained **100% data integrity** for critical tasks by preventing message drops during server restarts and load spikes.

Hyprland AI Assistant ✎   10/2025 – 10/2025
Copilot for Linux
- 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, Ardunio, Git/Github, CICD, C, C++, React, Typescript, PyTorch, Scikit-learn, PHP, Laravel