

Abreham Gebremedhin

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Summary

Software Engineer and AI Engineer specializing in Python, Django, and React. Passionate about building AI-powered solutions that solve real world problems. Experienced in facial recognition, natural language processing, and database optimization. Strong background in integrating machine learning models into production environments. Currently the **Lead AI Engineer at Dev Shop**, leading the development of **Ms Saba**, an AI-powered educational platform for Ethiopian students.

Technical Skills

- **Languages:** Python, JavaScript, TypeScript, SQL, C++
 - **Frameworks & Libraries:** Django, Flask, React, FastAPI, Node.js, Express.js, Flutter
 - **AI & Machine Learning:** TensorFlow, PyTorch, OpenCV, Facenet, Neo4j, LangChain
 - **Databases:** PostgreSQL, MySQL, AstraDB, MongoDB, Neo4j
 - **Cloud & DevOps:** Docker, Kubernetes, Git, CI/CD (GitHub Actions, Jenkins)
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Work Experience

Lead AI Engineer | Dev Shop | Remote | Present

- Leading the development and deployment of **Ms Saba**, an AI-powered **educational platform** for Ethiopian students.
- Integrated machine learning technology to enhance chatbot interactions, enabling the system to learn from user data and generate personalized study materials.
- Optimizing AI models for scalability and performance.

Software Engineer & AI Developer | Freelance | Remote | 2021 - Present

- Developed a **real-time chatbot application** using **React, Django, and WebSockets** for seamless messaging.
- Built a **facial recognition system** using **MTCNN & InceptionResNetV1** for attendance tracking.

- Designed and optimized **graph-based recommendation systems** using **Neo4j** and **natural language to Cypher query generation**.
- Implemented **device-aware session control** and secure authentication using JWT and cookies.
- Integrated **LangChain-based question generation** with AstraDB for an AI-powered educational tool.
- Developed a **Django background task system** to automate daily database maintenance tasks.

AI & ML Engineer Intern | iCog Labs | Addis Ababa, Ethiopia | 6-month Internship

- Worked on AI and ML projects, including **computer vision and NLP applications**.
 - Gained hands-on experience with **deep learning models** and AI research.
 - Contributed to AI-driven solutions for automation and data analytics.
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Side Projects

Amharic NanoGPT

- Developed a **GPT-like language model** for generating Amharic text.
- Built from scratch using a **transformer-based architecture** and fine-tuned for coherence.
- **GitHub:** github.com/AbrehamGebremedhin/ICog_Labs_Projects/tree/main/amharic_nanogpt

Chatbot with Neo4j and LLM Integration

- Built a chatbot leveraging **Neo4j's graph database** and an **LLM** for dynamic interaction.
- Extracted, cleaned, and preprocessed textual data for training.
- **GitHub:** github.com/AbrehamGebremedhin/ICog_Labs_Projects/tree/main/MettaChatBot

Anime Recommendation Chatbot

- Designed a **graph-based chatbot** that recommends anime based on user preferences.
- **GitHub:** github.com/AbrehamGebremedhin/AnimeBot

Rejuve.bio Dataset Annotation

- Built a **natural language to annotation format converter** and added a **suggestion mechanism**.
- **GitHub:** github.com/AbrehamGebremedhin/ICog_Labs_Projects/tree/main/rejuve

Facial Recognition Attendance System

- Fine-tuned **InceptionResNetV1** for face recognition and improved accuracy.
- **GitHub:** github.com/AbrehamGebremedhin/Biometric-Student-Identification-System

Dog Breed Prediction

- Built a **deep learning model** to identify dog breeds from images with high accuracy.
 - **GitHub:** github.com/AbrehamGebremedhin/dog_breed_prediction
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Education

B.Sc. in Computer Science | HiLCoE School of Computer Science & Technology

- **Relevant coursework:** Machine Learning, Data Structures & Algorithms, Databases, NLP
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Certifications

- <https://ti-user-certificates.s3.amazonaws.com/ae62dcd7-abdc-4e90-a570-83eccba49043/b4ada148-09aa-493b-84f5-d59b33460487-abreham-gebremedhin-2837ea01-173f-499f-baee-7ba0474c6437-certificate.pdf>
- <https://udemy-certificate.s3.amazonaws.com/pdf/UC-8ab0419b-cbba-4618-afe0-8a2a454f57a0.pdf>
- <https://ti-user-certificates.s3.amazonaws.com/ae62dcd7-abdc-4e90-a570-83eccba49043/b4ada148-09aa-493b-84f5-d59b33460487-abreham-gebremedhin-42f66815-2ab4-4410-b8d5-34995a9f208d-certificate.pdf>
- <https://ti-user-certificates.s3.amazonaws.com/ae62dcd7-abdc-4e90-a570-83eccba49043/b4ada148-09aa-493b-84f5-d59b33460487-abreham-gebremedhin-e52fde3f-9f40-461b-83c2-ea6604f9027a-certificate.pdf>

References

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