

Natnael Tilahun Hailu

Software Engineer

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PROFILE

Backend Software Engineer with 2+ years of experience in Python (Django, FastAPI) and AWS, delivering scalable APIs and AI-driven solutions. Boosted query speeds by 20% with OpenSearch, optimized systems with Redis, and integrated LLMs for efficient applications. Skilled in cloud automation and performance optimization.

SKILLS

Backend Development

Python (Django, FastAPI, Flask), REST APIs, GraphQL, PostgreSQL, MySQL, MongoDB, SQLAlchemy, Redis, Django RQ

DevOps & Cloud

AWS (ECS, EC2, S3, Lambda, OpenSearch, ALB, Route 53), Docker, Kubernetes, CI/CD (GitHub Actions, CircleCI), Azure DevOps, Sentry

Testing & Code Quality

Pytest, Factory Boy, PEP257 Documentation

AI

OpenAI, Llama, Langchain, Langgraph

PROFESSIONAL EXPERIENCE

Back-End Developer

Shibumi Group

04/2023 – present
Millan, Italy

- Currently developing and maintaining cloud-based application(Vinhood) using Python (Django REST Framework), ensuring scalability and efficiency while designing and optimizing 10+ RESTful API endpoints, enhancing data retrieval and response times.
- Increased test coverage from 60% to 80% using Pytest & Factory Boy, improving code reliability and deployment stability, and enforced PEP257-compliant documentation, enhancing code maintainability and team collaboration.
- Boosted query performance by 20% by integrating OpenSearch, enabling faster search results and reduced database load, and implemented Django RQ for asynchronous task execution, improving background job processing speed.
- Automated file storage with AWS Lambda & S3, ensuring secure and scalable data handling, and integrated Sentry for real-time error tracking, reducing system downtime and speeding up debugging.

Software Engineer

Horizon Tech ICT

05/2024 – 09/2024
Addis Ababa, Ethiopia

- Improved application performance by 15% using Redis caching, reducing database query times and enhancing user experience.
- Optimized high-traffic applications with PM2 process management, reducing CPU usage by 10% and minimizing system delays.
- Resolved concurrency issues for 10,000+ users by implementing a locking mechanism, preventing data conflicts and ensuring stability.
- Designed and deployed a CI/CD pipeline using GitHub Actions, reducing deployment time by 40% and eliminating manual errors.
- Led junior developers to implement features based on client requests, optimizing performance

EDUCATION

M.Sc. in Computer Science

Warsaw University of Technology

10/2024 – present
Warsaw, Poland

B.Sc. in Computer Engineering

Bahir Dar University

Grade: 3.9/4.0

10/2017 – 08/2022
Bahir Dar, Ethiopia

PROJECTS

Adey 10/2023 – present

SaaS AI Chatbot for Small Businesses

- Developed a SaaS chatbot platform that enables businesses to upload documents and receive an AI-powered chatbot using Retrieval-Augmented Generation (RAG) for instant, document-based responses.
- Built and deployed the backend using Python (Django), frontend with Javascript(Next js), and containerized with Docker on AWS ECS, ensuring scalability and reliability.
- Implemented API Gateway & Load Balancing using AWS Elastic Load Balancer (ELB) and Route 53, improving traffic management and request handling.
- Secured communications with SSL/TLS encryption and integrated authentication and authorization for user access control.
- Integrated PayPal for payment processing, allowing seamless subscription-based access to the chatbot.
- Optimized performance with rate limiting, caching strategies, and structured logging, improving query response times and system stability.

Amharic Speech-Controlled Home Automation 01/2022 – 08/2022

- Awarded Best Project by Bahir Dar University for innovative design and execution.
- Built a Flask backend hosted on Raspberry Pi, integrating DeepSpeech 2 for real-time speech command processing.
- Connected the system to IoT devices via Arduino, enabling seamless automation control.

LANGUAGES

English Amharic Polish