

Adel Mahmoud

Backend Developer | Python & Node.js

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 Portfolio  Open to Full-time, Part-time, or Contract-based global remote roles

Summary

Results-driven Backend Developer with 2+ years of experience designing, building, and optimizing scalable, production-ready server-side applications and microservices. Proven expertise in Python (FastAPI, Flask, Django) and Node.js, specializing in high-throughput RESTful APIs, asynchronous task processing, and database optimization. Adept at cutting latency via Redis caching, enforcing security protocols (JWT/OAuth), and deploying containerized solutions using Docker and CI/CD pipelines within Agile/Scrum environments.

Experience

Backend Developer, Freelancer

2024 – Present
Remote

- Developed and deployed scalable RESTful APIs and microservices using Python (FastAPI, Flask) and Node.js, ensuring clean architecture and seamless frontend integration.
- Designed and optimized relational and document schemas for PostgreSQL and MongoDB, implementing Redis caching to reduce database query load and improve API latency.
- Built asynchronous background worker pipelines using AsyncIO and task queues to handle resource-heavy operations and third-party webhook integrations.
- Hardened backend security by implementing JWT session management, robust password hashing, strict CORS policies, and rate-limiting to prevent unauthorized access.
- Containerized development and production environments using Docker and streamlined CI/CD workflows for reliable deployments.
- Worked within Agile/Scrum development cycles, using Jira for task tracking, sprint planning, and backlog refinement.

Technical Skills

Backend Development

- Python (Advanced), FastAPI, Django, Flask, Node.js, PHP

DevOps, Cloud & Infrastructure

- Docker, Nginx, VPS Deployment (Linux), Load Balancing, Git/GitHub, CI/CD.

Core Concepts & Architecture

- RESTful API Design, Clean Architecture, Agile/Scrum, Jira, Message/Job Queues, Database Optimization, JWT/OAuth Authentication.

Databases & Caching

- PostgreSQL (Neon), MongoDB, Redis

Frontend (Support)

- HTML5, CSS3, JavaScript, Tailwind CSS, Bootstrap, next.js

FEATURED PROJECTS

Enterprise-Grade Learning Management System (LMS) [↗](#), *Tech Stack: Next.js (Server Actions), PostgreSQL, Prisma ORM, Clerk, Fawaterk, Bunny.net API*

02/2026 – 08/2026

- Engineered a high-availability backend using Next.js Server Actions and PostgreSQL, writing optimized relational queries with Prisma ORM.
- Protected Video Streaming Pipeline: Integrated Bunny.net [↗](#) Stream API with dynamic signed token authorization, customized video player UI, and automated video completion percentage tracking.
- Architected enterprise DRM & security pipelines, incorporating single-device session locking via ActiveSession state, and tokenized media streaming via Bunny.net [↗](#) API to prevent unauthorized video scraping.
- Integrated payment gateways Fawaterk with automated webhook verification, prepaid digital wallets, and custom access codes.
- Built background pipelines for PDF answer submissions with instructor evaluation dashboards and automated grading algorithms for interactive quizzes.
- Artificial Intelligence for Extracting Exam Questions from PDF Files or Images

SubTranscribe – AI-Powered Audio Transcription Platform [↗](#),
Tech Stack: Python, Flask, MongoDB, Redis, Docker, AssemblyAI, OpenAI API

2024 – 2025

- Developed a production-ready backend for an end-to-end AI transcription, translation, and subtitle generation platform.
- Implemented an advanced audio chunking system and async pipelines using Redis for background jobs and task queuing to efficiently process large media files.
- Built features to export dynamically generated subtitles into multiple industry standard formats including SRT, VTT, and TXT.

Gitmarket – Multi-Vendor E-Commerce Platform,

2025 – 2025

Tech Stack: Python, Django, PostgreSQL, MongoDB, Cloudinary

- Multi-Vendor Architecture: Built a complete e-commerce ecosystem featuring isolated, dedicated management dashboards for Admins, Sellers, and Buyers.
- E-Commerce Core Logic: Programmed complex product inventories, dynamic shopping cart states, order processing pipelines, and secure checkout workflows.
- Data & Asset Optimization: Optimized relational schemas in PostgreSQL and integrated Cloudinary API for high-performance, automated media delivery.

Voxtral – ASR Model Script & Automation,

2025 – 2025

Tech Stack: Python, Mistral AI, Webhooks, ElevenLabs SDK

- Developed an automated script leveraging Mistral AI STT to process audio/video files and output accurate text with timestamps in SRT format.
- Engineered an automated pipeline that securely captures STT results via Webhooks and parses them into structured JSON, TXT, and SRT outputs.

Additional Information

Languages

Arabic (Native), English (Intermediate)

Core Strengths

Clean Code & Scalable Architecture Mindset, Security-First Development, Cross-functional Communication

Education

Bachelor of Computer Science, Tanta University

Egypt