

AMIN DEHGHAN DEHNAVI

Backend Engineer

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PROFESSIONAL SUMMARY

Backend developer with 3+ years of experience building stable, fast, and scalable services in Python, Django and FastAPI. Redesigned a production MySQL schema at Asia Bam, improving transaction speed by 70% and API response time by 40%. Experienced across REST API design, relational and NoSQL databases, and event-driven microservice architecture. Holds a B.Sc. in Cellular and Molecular Biology and is currently pursuing an M.Sc. in Genetics; applies that quantitative research background to backend systems work and to bioinformatics-adjacent open-source projects. Active open-source contributor building AI/RAG-based systems in Python.

TECHNICAL SKILLS

Languages & Frameworks: Python, Django, Django REST Framework, FastAPI, GraphQL, Celery, GRPC

Databases: MySQL, PostgreSQL, MongoDB, Redis

Infrastructure & DevOps: Docker, Kubernetes, Nginx, Apache Kafka, RabbitMQ, Git, GitHub, GitLab, CI/CD, Cloud

APIs & Architecture: REST APIs, WebSocket, OAuth2, Keycloak, Microservices, Event-Driven Architecture

AI: RAG, Vector Databases, Semantic Search, Hybrid Search, Embeddings, AI Pair Programming / AI-assisted development, AI Agents

Other: Web Scraping, Telegram Bots, Automated Testing

WORK EXPERIENCE

Backend Developer — Exiraz *Apr 2025 - Present*

- Develop and maintain backend infrastructure for the company's core product suite using Python and Django REST Framework.
- Design and optimize REST APIs consumed by multiple internal services, focusing on reliability and response time.
- Work directly with MySQL/PostgreSQL data layers and collaborate with the team on system scalability.

Backend Developer — DuoBlocks *Feb 2024 - Mar 2025*

- Designed backend systems architected for concurrent development and long-term maintainability.
- Implemented an event-driven microservice architecture to decouple services and handle asynchronous communication.
- Built real-time features using WebSocket via Django Channels for live, low-latency client updates.
- Integrated centralized authentication across services using OAuth2 (Keycloak).
- Worked with MySQL and PostgreSQL, and implemented Redis-based caching to reduce database load.

Backend Developer — Asia Bam *Oct 2023 - Jan 2024*

- Redesigned and optimized the production database schema, improving transaction speed by 70%.
- Refactored core application logic, improving overall API response speed by 40%.
- Improved error-handling logic, increasing system fault tolerance under unexpected failure conditions.

Backend Developer — Yazd Takhfif *Jun 2023 - Sep 2023*

- Developed a new platform version adding multi-vendor marketplace capability.
- Optimized page load times and API response performance across the site.
- Improved user experience by refactoring and streamlining the website's request/response lifecycle.

PROJECTS

Wellio — Source Available, Student Project | github.com/dehghandehnaviamin/wellio

- Architected and built Wellio, a production-grade AI-first personal health assistant — a fully-async Python 3.13 / FastAPI backend (44 REST endpoints, 33 PostgreSQL tables) and a Vue 3 + TypeScript SPA — following Clean Architecture (routes → services → repositories).
- Engineered an AI chat orchestrator with pluggable LLM providers (OpenAI, Anthropic, and a deterministic rule-based fallback), medical-safety guardrails (emergency detection, prompt-injection defense), and a persistent Health Passport injected into every response.
- Delivered end-to-end health domains — document upload with OCR/lab/imaging parsing, lab-trend timelines, timezone/DST-aware recurring reminders, dashboards, physician summaries, and prescription import — behind provider interfaces (storage, OCR, LLM) with working local defaults.
- Hardened for production: JWT auth with refresh-token rotation + Argon2id, Alembic migrations, Redis rate limiting, structured logging, a Dockerized Nginx/Postgres/Redis stack, and strict quality gates (mypy --strict, Ruff, pytest).

Mind Tape — Open Source | github.com/dehghandehnaviamin/mind_tape

- AI-powered browser assistant with real-time memory sync, a local vector database, and a FastAPI backend.
- Browser extension that automatically collects and stores web page content for later retrieval.
- Built a RAG-based Q&A system over browsing history using hybrid search (vector, keyword, and recency scoring).
- Implemented real-time cross-device sync over WebSocket and a visual memory graph of related data.

Supportal — Open Source | github.com/dehghandehnaviamin/django_supportal

- AI-powered customer support platform built with Django, Django Channels, and the OpenAI API.
- Lets businesses upload internal documents (PDF, DOCX, TXT) to power a live chat assistant.
- Implemented RAG-based responses grounded in each business's own knowledge base.
- Built a live chat system over WebSocket (Django Channels) with a secure, Redis-backed event layer.

Timino — Open Source | github.com/dehghandehnaviamin/timino

- Built a production-oriented, multi-bot appointment booking platform in Python using aiogram 3, with separate customer, business, and admin bot instances (or a unified single-bot mode).
- Designed an async data layer with SQLAlchemy and MySQL, managed through Alembic migrations, plus a Redis + Celery pipeline for scheduled reminders and background tasks.
- Implemented a full booking flow via FSM (weekly provider shifts, custom time blocks, waitlist notifications, and nearest-available-slot suggestions).
- Added a FastAPI backend and web dashboard (with a separate frontend) alongside the bot, supporting both webhook and polling modes, business subscriptions/wallet payments, and an in-app support ticket system.

ColdStart Hunter — Open Source | github.com/dehghandehnaviamin/coldstart_hunter

- Building a diagnostic platform to detect and explain cold starts, infrastructure latency, and request bottlenecks in Kubernetes environments.
- Developed a FastAPI backend exposing an analysis API with a pluggable detector architecture for root-cause analysis (RCA).
- Integrated Prometheus/PromQL and Grafana for observability, with example Kubernetes manifests and a docker-compose setup for local development.
- Seeded the system with sample logs, traces, and metrics to validate detectors before wiring into a live cluster.

EDUCATION

M.Sc. Genetics — Islamic Azad University, North Tehran Branch *Oct 2025 - Present*

B.Sc. Cellular and Molecular Biology — University of Science and Art, Yazd *Oct 2020 - Jun 2024*

CERTIFICATIONS & COURSES

Python Deep Dive Courses — Udemy *Jun 2025 - Aug 2025*

LANGUAGES

Persian: Native | English: Intermediate