

SERGEY ASHUGHYAN

Full-Stack & AI Engineer · Production AI Platforms, Payments & LLM Infrastructure

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PROFILE

Full-Stack & AI Engineer who architects and ships production AI platforms end-to-end — async FastAPI backends, fault-tolerant multi-provider LLM pipelines, real payment systems, and modern React frontends. I build for the hard parts: surviving provider outages, never double-charging, and keeping LLM spend visible and low — backed by migrations, tests, and full observability from day one. Core stack: Python (async FastAPI, SQLAlchemy), Next.js / React, Postgres / Redis, and multi-LLM orchestration.

WORK EXPERIENCE

Lead Full-Stack & AI Engineer UpSound AI

2025 – Present

AI platform for independent artists, now serving 2,000+ users — A&R-grade track analysis, AI visual & songwriting generation, Telegram-first distribution. Architect & lead engineer; primary author of the production codebase (727 of 1,339 backend commits, incl. initial setup).

- Architected and shipped an end-to-end AI A&R pipeline — audio ingestion (upload / Yandex Music), lyric transcription, and BPM/key/tonal extraction into a structured artist & track profile — turning a **~30-minute manual review into a result returned in under 60 seconds**. Built on async FastAPI with 13 Redis-backed job queues.
- Designed a multi-provider LLM & image router with automatic fallback (Gemini → OpenRouter and multiple image providers) so a single outage never breaks generation, writing per-call token and USD cost to PostHog and Postgres for feature-level cost attribution.
- Built the subscription & token-billing system on T-Bank recurring payments — SHA-256 webhook signature validation, row-level-lock idempotency, and a dual-balance wallet across 26 transaction types — with PayKeeper and Tochka as backup rails behind one webhook contract.
- Authored the AI generation stack: neuro-photoshoot and cover generation with CLIP-based anti-plagiarism reference mixing, plus a Song Studio songwriting flow (anti-cliché ideation, EN → RU translation, voice synthesis).
- Owned the full product surface — a Next.js 15 / React 19 app (52 pages, 233 components) and an aiogram Telegram bot — hardened with 149 Alembic migrations, 199 pytest modules, and Sentry / OpenTelemetry / Prometheus across a multi-role Railway deploy.

n8n AI Automation & Full-Stack Web Developer DEO HOME

2025 – 2026

E-commerce retailer — home & office furnishings (deohome.online, deoffice.ru)

- Built n8n pipelines connecting AI with WooCommerce, Telegram, and CloudConvert that auto-generate dynamic PDF quotes and deliver them via Telegram — turning manual proposal creation into a hands-off process.
- Built and launched two live commercial e-commerce platforms (deohome.online, deoffice.ru) on a custom WordPress / WooCommerce architecture, owning full-stack delivery from build to deployment.
- Designed and deployed a native-like PWA that became the company's core internal management tool, used daily by the team to run operational workflows.

Web Developer IMUSIC

2022 – 2023

- Built and maintained responsive frontend interfaces with HTML and CSS, focused on cross-device layout and usability.

OTHER PROJECTS

- **ElevenLabs Agent Manager (Telegram)** — n8n bot that manages ElevenLabs voice agents via natural-language Telegram messages (prompts, welcome messages, knowledge bases) with full per-user security isolation. *n8n · GPT-4o mini · ElevenLabs API · MySQL.*

TECHNICAL SKILLS

Programming Python, TypeScript, SQL, C++

AI & LLMs Gemini 2.5 / 3 Pro, OpenRouter, OpenAI, xAI Grok, embeddings, CLIP

Backend async FastAPI, SQLAlchemy 2 + asyncpg, Alembic, Redis, pgvector, MySQL

Frontend Next.js 15, React 19, TypeScript, Zustand, TanStack Query, Tailwind

Payments, Bots & Automation T-Bank / PayKeeper / Tochka billing (idempotent webhooks), aiogram, n8n

Infra & Observability Railway, Docker, Supabase, Cloudflare R2; Sentry, OTel, Prometheus, PostHog

EDUCATION

B.Sc. Software Engineering

2022 – 2027

National Polytechnic University of Armenia

LANGUAGES

Armenian (Native) · Russian (Fluent) · English (Professional working proficiency)