Petro Korsunskyi

Middle Python Backend Engineer

Python · Payments · Telegram Mini Apps · Voice AI · Web3
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Python Backend Engineer with 2+ years of experience architecting asynchronous backend systems, payment gateways, distributed job queues, and AI/GPU infrastructure. Specializing in FastAPI, PostgreSQL, Redis, and high-reliability background processing with strict idempotency and transactional integrity guarantees. Proven track record of shipping end-to-end products from database architecture to React / Next.js interfaces.

Core Stack: Python 3.11+, FastAPI, AsyncIO, Dishka, PostgreSQL, Redis, SQLAlchemy 2.0, Alembic, Celery / ARQ, Docker

WORK EXPERIENCE

Commercial Project (NDA) — AI Video & GPU Platform — Middle Python Backend Engineer

04.2026 — Present | Remote / Ongoing

• Architected and deployed an autonomous GPU agent on RunPod: parallel execution of compute workloads from backend queues with dynamic worker scaling.

• Implemented workload-driven container auto-scaling and graceful shutdown routines, reducing idle GPU infrastructure costs.

• Configured hardware-accelerated video rendering pipelines on NVIDIA and local LLM deployment; optimized batch image manipulation.

• Refactored integration services and eliminated queue processing bottlenecks, enhancing overall system fault tolerance.

Stack: Python, FastAPI, AsyncIO, RunPod API, Docker, NVIDIA CUDA, Pillow, PostgreSQL, Redis

Voice AI Assistant — Python Backend Engineer

01.2026 — 04.2026 | Commercial Project (NDA)

• Engineered an autonomous real-time voice-agent telephony service on MTProto (Pyrogram).

• Built a low-latency audio processing pipeline over non-blocking Linux pipes: end-to-end chaining of VAD → Whisper STT → LLM token streaming → ElevenLabs TTS.

• Implemented dynamic conversation management with speech interruption handling and contextual call state tracking.

Stack: Python, AsyncIO, Pyrogram, ElevenLabs API, Whisper, VAD, Linux IPC / Pipes

VolGen — Backend / Web3 Engineer

09.2025 — 01.2026 | Commercial Project

• Developed the transactional core on Base: smart contract interactions via Web3.py, DEX swaps on Aerodrome, and Binance API integrations.

• Engineered a resilient transaction manager with nonce tracking, dynamic gas repricing, and idempotency guarantees.

• Persisted pipeline execution states in PostgreSQL, enabling zero-loss recovery of pending transactions across worker restarts.

Stack: Python, FastAPI, Web3.py, EVM, Base, PostgreSQL, Redis, ARQ, Docker

Work experience (continued)

RYFT Core — Backend Engineer

05.2025 — 09.2025 | Commercial Project

• Architected and implemented the VPN backend: automated billing, subscription lifecycle, client device tracking, and access enforcement.

• Integrated Marzban API and Xray-core nodes for automated credential provisioning, dynamic key revocation, and bandwidth telemetry.

• Configured ARQ queues for node synchronization with automated retry routines on network failures.

Stack: Python, FastAPI, PostgreSQL, Redis, ARQ, Marzban API, Xray-core, Docker

Danskyi TMA — Fullstack / Backend Engineer

11.2024 — 05.2025 (maintained through 2026) | Commercial Project

• Engineered an online booking Telegram Mini App from scratch: REST API, PostgreSQL schema, administration panel, and client UI.

• Implemented real-time booking slot validation with row-level locks in PostgreSQL, eliminating overbooking and race conditions.

• Integrated payment gateways with webhook processing and asynchronous notifications via Aiogram bot and ARQ background workers.

Stack: Python, FastAPI, Dishka, PostgreSQL, Redis, ARQ, Aiogram 3, Next.js, TypeScript, Docker

SELECTED PROJECTS

Crypto Game TMA — Backend Engineer

2026 | Independent Project

• Designed the financial accounting system using double-entry bookkeeping to guarantee auditability and eliminate balance discrepancies.

• Extracted EVM/TON transaction signing into an isolated microservice communicating via gRPC and RabbitMQ.

Stack: Python, FastAPI, PostgreSQL, RabbitMQ, Celery, gRPC, Web3.py, Next.js

PaperPump — Blockchain / Indexer Engineer

2025 | Independent Project

• Developed Tact smart contracts and a high-performance TON blockchain indexer in TypeScript: transaction tree traversal, opcode instruction decoding, and Jetton metadata extraction.

Stack: TypeScript, Tact, TON, TonAPI, @ton/core

CS2 Server Manager — Backend Developer

2025 | Independent Project

• Implemented an automated donation service handling payment webhooks with instant in-game privilege delivery via RCON protocol and an administration dashboard.

Stack: Python, aiohttp, RCON, Webhooks

TECHNICAL SKILLS

Backend: Python 3.11+, FastAPI, AsyncIO, Dishka (DI), Pydantic, SQLAlchemy 2.0, Alembic, REST API, WebSocket, gRPC, TypeScript, React / Next.js

Data & Queues: PostgreSQL (indexing, locks, transactions), Redis (caching, pub/sub), RabbitMQ, Celery, ARQ

Architecture: Microservices, Event-Driven, Idempotency, Double-entry bookkeeping, Clean Architecture

DevOps & AI: Docker, Docker Compose, Linux (bash, IPC pipes, systemd), RunPod, NVIDIA CUDA, Git, CI/CD, Prometheus, Grafana

Testing & Quality: pytest, pytest-asyncio, Ruff, mypy

Web3 & Telegram: Web3.py, EVM (Base), TON, Tact, Aiogram 3, Telegram Mini Apps

LANGUAGES & EDUCATION

Languages: English — B1 / Intermediate (technical documentation, professional correspondence) | Ukrainian — Native | Russian — Fluent

Education: Self-directed Engineering & Computer Science: Distributed systems, relational databases, asynchronous architectures (2023 — Present)