CURRICULUM VITAE

Nemanja Adamov

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PROFILE

Software Architect / Senior Full Stack Engineer with 12+ years of experience building production systems in Python — from high-traffic sports betting platforms to real-time vehicle tracking and TMS systems. Throughout my career I've led projects from the first architectural sketch to production: system design, backend development, data modelling and cloud infrastructure. That breadth made me the engineer the team leans on for key technical decisions. In recent years my focus has shifted toward applied AI — integrating LLMs and agentic workflows into production systems and building the engineering foundations that make ML work reliable.

APPLIED AI

- Integrating **LLM APIs** (Anthropic, OpenAI) into production Python services — automation, internal tooling and document/data workflows.
- Running **self-hosted AI infrastructure**: open-weight models on own servers plus an n8n-style workflow orchestration system powering automations on current projects.
- Designing **agentic workflows**: multi-agent pipelines for code generation, review and verification, used daily in real product delivery.
- Built **xapi**, a framework designed for building cloud-based software: from declarative specs it generates complete CRUD services, the back office and documentation. Project infrastructure comes ready from day one, so development starts directly at project-specific business logic.
- **Probability modelling** and odds-generation engines for sportsbook products — math-heavy, performance-sensitive Python with correctness guarantees.

SELECTED PROJECTS

xapi — Software That Builds Software

2025 — Present

Python microservice framework · FastAPI · async SQLAlchemy · PostgreSQL · Redis · Celery

A high-performance framework where backend services are declared in YAML and the model, schema and API layers are generated from that single source of truth. Ships with JWT auth, RBAC/ABAC, multi-tenancy, real-time events (Socket.IO), event-driven background processing and Cython-optimised hot paths. Designed from the ground up for AI-assisted development: agent manifests describe the architecture so AI tooling can extend services consistently.

xtms — Transport Management System

2026 — Present · xtms.app

built on xapi · web + mobile · event-driven · Docker

A complete multi-tenant transport management system built on xapi: fleet, drivers and load dispatch, transactions and invoicing, a workflow (flows) engine, full internationalisation, and a dedicated AI microservice for load-related automation. Each microservice is generated from declarative schema definitions; the whole platform is event-driven and Dockerised across development, staging and production. Alongside the web application I built the companion mobile app, so the system covers the entire operation — from back office to drivers on the road.

xgames — Casino Floor Management

2026 — Present

asyncio · PostgreSQL RLS · Docker

Casino floor management system I designed and built in Python: an asyncio daemon speaking the SAS slot-machine protocol directly to gaming machines, a multi-tenant cloud aggregator, per-location admin, PostgreSQL row-level security for tenant isolation, field-level encryption for player data, and a hardened Docker deployment.

EXPERIENCE

PremierBet — Software Architect / Senior Full Stack Engineer

2015 — Present

Sports betting platform · Python · PostgreSQL · RabbitMQ · Redis · WebSockets

Joined as a backend engineer building the sports betting platform in Python and grew with it for over a decade. The platform is a high-throughput, event-driven system: dozens of RabbitMQ consumers and daemons processing live odds feeds, odds generation and ticket pipelines; sportsbook, lottery and slots services; risk management and cashout flows; real-time delivery over WebSockets backed by Redis; PostgreSQL with async SQLAlchemy. Led the backend team from 2019 — code reviews, technical decisions, mentoring. Today I work as Software Architect / Senior Full Stack Engineer: system architecture, technology choices, hands-on development across the stack, and introducing LLM-based automation into the platform's workflows.

etaxiapp — Taxi Dispatch Management System

2017 — 2019

Founder

Founded and built a taxi dispatch platform end-to-end: my own concept for uninterrupted communication between drivers and the online dispatch system. Entire backend in Python on a microservice REST framework I built myself; driver tablet app and passenger app (Android/iOS); admin back office in JavaScript. Designed and built an IoT in-vehicle device (GPS tracking, panic button) communicating with the driver's tablet.

DigitalCube — Backend / Frontend Developer

2016 — 2017 · part-time

Delivered two internal business applications: Python backends, JavaScript frontends.

Bet-Shop — Backend Developer

2014 — 2015

Maintenance and feature development of a sports betting platform, including integrations with payment peripherals (coin/bill acceptors, POS printers).

SKILLS

LANGUAGES	Python (primary), JavaScript / Node.js, SQL, PHP
BACKEND	FastAPI, Flask, SQLAlchemy, Tornado, Django / DRF, REST API design, WebSockets, microservices, multi-tenancy, event-driven architecture, test-driven development (pytest), RabbitMQ, Celery
DATA	PostgreSQL, MySQL, Redis, MongoDB, Firebase — schema design, query optimisation, migrations, backup & recovery
DEVOPS & CLOUD	Docker & Docker Compose (multi-environment deployments), Linux, nginx (SSL, routing, load balancing), Varnish, Elasticsearch, CI/CD, AWS (EC2, RDS, S3)
AI & AUTOMATION	LLM API integration (Anthropic, OpenAI), self-hosted open-weight models, workflow orchestration (n8n-style), agentic workflows, prompt engineering, evaluation & regression testing of AI features
EMBEDDED	Firmware for payment peripherals (bill / coin acceptor) over serial protocols (ccTalk, SSP, ID003). Firmware for POS thermal printers.

INTERESTS / HOBBIES

Cyber security — I actively follow the offensive-security space and bring it back into my engineering work: hardened deployments, RBAC/ABAC design, field-level encryption and security gates in CI are standard practice across my projects.
Electronics — my hobby projects, built with microcontrollers and sensors. Alongside my experience, I want to keep learning: with the help of AI I learn and build electronics, combined with solid programming knowledge.
3D printing — designing and printing parts and enclosures for my electronics projects, and toys for my kids :)

EDUCATION

ICT College of Vocational Studies, Belgrade

Internet Technologies