

Mykola Zhylka

Senior Software Architect | Tech Lead

Kyiv, Ukraine | +380 67 753 7373 | zhilka@gmail.com | Portfolio | LinkedIn

PROFESSIONAL SUMMARY

Senior Software Architect with over 30 years of experience engineering complex enterprise systems from initial concept to global production. Successfully pioneered the transition from traditional enterprise architecture (.NET, Cloud) to modern AI-enabled solutions, specializing in semantic search, vector retrieval, and automated assistant workflows. Proven track record of technical executive leadership in high-stakes international projects across FinTech, AgriTech, and the public sector.

CORE COMPETENCIES

Solution Architecture & System Design, AI Product Engineering

- Microservices & Distributed Systems, • Semantic Search & Vector Retrieval
- Scalable API Design (REST/SOAP), • Gemini 2.0 Flash Intent Analysis
- Technical Roadmap & Strategy, • AI Orchestration & Embeddings

Cloud Migration & Modernization, Enterprise Integration

- Microsoft Azure & Vercel, • ERP/1C Ecosystem Synchronization
- Legacy Refactoring & Modernization, • Banking & Govt Service (Diia/DAR)
- Serverless & Event-Driven Design, • B2B & CRM Platform Development

Technical Team Leadership,

- Cross-functional Team Management, • Delivery & Stakeholder Leadership

PROFESSIONAL EXPERIENCE

Consultancy & Contract Engagements (2024–Present)

IT Architect / Lead Developer | Ukrainian Payment Agency / Niras Sweden AB (2025–Present)

- Designed and implemented a scalable data collection and analytics platform for EU-funded agricultural initiatives.
 - Developed a modern application architecture utilizing Next.js, TypeScript, and Supabase, ensuring high availability and performance.
 - Defined distributed IT infrastructure requirements for regional offices, establishing rigorous security and operational standards including Zitadel-based Identity Management (OIDC/OAuth2).
 - Architected integration criteria for state systems (DAR, Diia), banking services, and electronic document workflows to ensure seamless national interoperability.
- Software Architect / Lead Programmer | IT-Link (Selected periods 2006–2026)**

- Architected AI-powered semantic product search using **Gemini 2.0 Flash** for intent analysis and **Qdrant** for vector retrieval.
- Engineered automated embedding pipelines utilizing **Gemini Embedding 2** to enhance product catalog relevance for natural-language queries.
- Developed an enterprise-grade AI Telegram assistant as a specialized **Worker Service** using Microsoft Semantic Kernel for context-aware response routing.
- Evolved mission-critical ERP/B2B platform capabilities while maintaining legacy 1C integrations during high-load modernization phases.**Database Architect / Data Analysis Expert | Suez, Belgium (2024–2025)**
- Architected a centralized **Operational Data Store (ODS)** to ensure Kigali Protocol compliance, consolidating HFC/Freon import and market data from diverse unstructured sources.
- Engineered robust ETL and data preparation workflows utilizing MS SQL, SSIS, and SSAS for baseline environmental analysis.
- Streamlined reporting support for international regulatory bodies, transforming fragmented data into actionable compliance assets.

Senior Leadership & Platform Development (2015–Present)

Software Architect / Lead Programmer | Online Finance (2024–2025)

- Led the architectural design and deployment of **Credit Register 2.0** for the National Bank of Ukraine (NBU).
- Implemented secure workflows for data collection, encryption, and digital signing, utilizing Azure-based queue processing for sensitive report delivery.
- Integrated CRM systems with the Electronic Court of Ukraine and major credit bureaus (UBKI, PVBKI) via Microsoft Azure (Functions, Service Bus, SQL).**Software Architect / Lead Programmer | Jerelia (2015–2024)**
- Designed a high-load, distributed B2B platform architecture capable of supporting business-critical operations.
- Delivered cross-platform web and PWA solutions featuring real-time synchronization with 1C 8.3 via SOAP/WSDL services.

Earlier Career Highlights

- **Head of Automated Data Processing Department | State Tax Inspectorate:** Spearheaded regional digital transformation and high-stakes public sector data management.
- **Vosdi (Kyiv):** Architected LMS platforms utilizing Next.js, React, and PostgreSQL.
- **Import-office / Burokrat (Kyiv):** Developed high-load B2B platforms focused on ASP.NET Core and multi-database ecosystems (PostgreSQL, MSSQL, SSAS).
- **Laura Ashley / APK-Invest (Kyiv):** Led e-commerce and industrial B2B platform development using ASP.NET MVC and MySQL/MSSQL stacks.
- **Key Themes:** Focused on ERP/1C gateways, industrial automation software, and high-concurrency web/desktop ecosystems (Delphi, Oracle, InterBase).

TECHNICAL STACK

- **AI & Semantic Search:** Gemini 2.0 Flash, Gemini Embedding 2, Qdrant (Vector DB), Microsoft Semantic Kernel, Embeddings pipelines, Intent analysis.
- **Cloud & Infrastructure:** Microsoft Azure (Functions, Service Bus, SQL, Storage), Vercel, Supabase, Docker, Zitadel (OIDC/OAuth2), GitHub/GitLab.
- **Backend & Data:** .NET/C# (ASP.NET Core), Node.js, **Rust**, Go, Python, Worker Services, PostgreSQL, MS SQL (SSIS/SSAS/Reporting), MySQL, Oracle, InterBase.
- **Frontend:** React, Next.js, TypeScript, PWA, JavaScript, Knockout.
- **Legacy & Integration:** 1C (6.0–8.3), SOAP/WSDL, Delphi 7, MIDAS/DCOM, REST APIs.

EDUCATION

Vinnitsia National Technical University (VNTU)

- **Specialty:** Design and Technology of Electronic Equipment
- **Dates:** 1986–1993