

Vladimir Frunza

Principal Engineer | 20+ Years of Experience
Yerevan, Armenia | hex@umonkey.net | +37491183932

Professional Summary

A Principal Engineer with 20+ years of experience in full-system architecture, from initial concept to large-scale operation. Proven leader in the pragmatic, cost-driven transformation of complex legacy monoliths into high-availability microservice architectures. Deep expertise in both building new platforms from scratch and optimizing complex, multi-cloud infrastructure for performance and cost.

Languages & Frameworks	Cloud & DevOps	Architecture & Expertise
Rust, TypeScript, PHP, Python, SvelteKit, SQL/NoSQL	Cloud Infrastructure, Docker, Message Queues, IaC, CI/CD Pipelines, Infrastructure Management, Observability & Monitoring	System Design, Team Leadership & Mentoring, Microservice Architecture, Monolith Transformation, Cloud Cost Optimization, Technical Strategy & Selection, Engineering Best Practices, Scalable & Resilient Design, Geospatial Systems

Experience

NOV 2020 - JUL 2025

EFC GmbH, Germany – *Principal Engineer*

- Led the architectural redesign of a high-traffic video platform, transforming an unstable Python and Scala monolith into a scalable microservice architecture using PHP and Rust (for critical components).
- Led a complete frontend rewrite (from React SSR to a static site), which resolved critical performance issues, drastically simplified scalability, and finalized the transition to an API-first architecture.
- Defined the platform's technical strategy, consolidating a fragmented multi-cloud infrastructure into AWS and replacing high-maintenance internal tools with managed services (e.g., AWS MediaConvert, Kinde Auth).
- Established a full observability stack using CloudWatch and NewRelic (metrics, logs, alerts) to enable proactive performance/cost analysis, rapidly diagnose issues, and identify inefficient code.
- Architected and implemented a new API governance model, migrating from open anonymous access to a client-authenticated system and introducing rate limiting to improve security and platform stability.

- Drove the platform's migration from manual infrastructure management to a full Infrastructure as Code (IaC) model using Terraform, improving stability and deployment velocity.
- Re-architected high-cost services to use MemoryDB (Redis) for operational data instead of DynamoDB, achieving a significant performance boost and a drastic reduction in database costs.
- Managed a transparent, zero-downtime CDN migration (from an in-house solution to Cloudflare, and later to CDN77) to significantly optimize content delivery costs.
- Managed and mentored a team of 4 engineers, creating and implementing new best practices for CI/CD and comprehensive testing (frontend, backend, visual regression).

APR 2012 - NOV 2020

Freelance – *Senior Software Architect & Consultant*

- Architected and delivered end-to-end full-stack solutions for international clients, taking full ownership of the project lifecycle from requirements to deployment.
- Specialized in designing and building complex, robust backends (PHP, Python, JavaScript), focusing on pragmatic technology selection and long-term maintainability.
- Acted as a key technical advisor for clients, guiding them on system architecture, scalability strategies, and technology selection trade-offs.

2007 - 2012

Molinos – *Senior PHP Developer*

- Led the architecture and development of a proprietary PHP-based CMS, which became the standard platform for all new client websites.
- Architected and built an internal hosting automation platform, enabling rapid provisioning of new client sites (pre-Kubernetes era).
- Specialized in high-stakes troubleshooting, quickly resolving complex technical issues in legacy and high-traffic production systems.
- Developed and maintained dozens of client websites using the LAMP stack (PHP, Symfony, MySQL).

2002 - 2007

Sybase – *Software Engineer*

- Developed warehouse automation systems using the Sybase platform.
- Wrote C++ applications for handhelds (Pocket PC) that integrated with barcode scanners and industrial label printers (Tally).

1998 - 2002

Early Career – *Software Engineer*

- Held various engineering roles gaining foundational experience across diverse domains, including low-level systems (Assembler), enterprise databases (Informix), and desktop development (Objective-C).

Personal Projects

MAR 2024 - NOW

Trees of Yerevan – github.com/umonkey/treemap

- Architected an open-source, full-stack, API-first, and container-first (Docker) tree mapping application using Rust (backend) and SvelteKit (frontend).
- Designed a highly robust and fault-tolerant system architecture using asynchronous message queues to ensure service reliability.
- Engineered a two-way data exchange with OpenStreetMap (OSM), which serves as the core geospatial data layer.
- Serves a diverse stakeholder base, including community activists, journalists, and municipal workers, to facilitate urban tree management.

Community & Interests

- Active participant in civic initiatives for urban greenery (e.g., "Trees of Yerevan" project), applying engineering skills to practical community challenges.
- Leveraging 10 years of hands-on experience from a family-owned tree nursery; currently pursuing a parallel career path as a consulting arborist, blending deep domain knowledge with engineering expertise.