

Principal Software Engineer / Software Architect

20+ years of experience, combining architectural expertise with hands-on implementation to deliver high-load distributed systems processing hundreds of millions of operations daily.

- **Ranked in the top 0.18% of national algorithmic contests**
- Specializes in solving scalability bottlenecks, reducing infrastructure cost (**up to 20x**), and rebuilding legacy systems into predictable, production-grade architectures.
- **Master's degree in Artificial Intelligence**; technical interests include computer graphics algorithms and GPU-accelerated technologies.

Technical Skills

Languages: Java, TypeScript, Python, Rust

Architecture: Distributed Systems, Concurrency, High-Load Systems

Cloud & Infrastructure: AWS, Azure, GCP, Kubernetes

Data & Storage: PostgreSQL, CosmosDB, MongoDB, Redis, Elasticsearch

Streaming: Kafka, Spark

DevOps: Terraform, Helm, Jenkins, Git

Observability: Prometheus, Grafana, ELK Stack, Splunk

AI / Data Science: TensorFlow (Keras), PyTorch, Jupyter · Computer Vision (motion estimation)

Career Experience

Walmart.com

Feb 2024 - Present

Principal Software Engineer

Led a mission-critical retail service handling high-concurrency workloads (**~1M ops/sec**), eliminating transaction contention on a **2TB dataset** and restoring system stability

- **Resolved database transaction contention** under burst load (**~1M concurrent operations/sec**) by implementing optimized data access patterns with optimistic consistency and separating read/write operations, improving throughput while maintaining atomicity
- Implemented automated tooling to generate behavioral UML from legacy code, enabling system discovery and unblocking engineering and architectural redesign
- **Developed automated** permutation-based **test generation framework (~5,000 scenarios)**, covering ~70% of functional system scenarios **and deriving ~2,000 high-value cases as executable documentation**
- Redesigned and re-engineered core service to eliminate fundamental architectural flaws, establishing a system that enables consistent, predictable, and defect-resistant development, delivered to production via staged canary deployments

Implemented end-to-end design and implementation of a cloud-native data platform from scratch, enabling REST-based access to Confluent Kafka data streams (Java, Azure, Kubernetes)

- Designed **cross-region redundancy** and failover strategies to support high availability and fault tolerance
- Implemented secure service-to-service communication and centralized secrets management (OAuth2, Azure Key Vault), ensuring **secure handling of sensitive data**
- Delivered **efficient data** access patterns for **CosmosDB** based on prior large-scale system experience, **avoiding common scalability pitfalls**
- Designed secure network boundaries and firewall configurations, preventing unauthorized access and ensuring controlled service communication
- Established secure traffic flow through edge protection and gateway integration (WAF, Azure Application Gateway), proactively mitigating potential attack vectors
- Resolved **complex integration challenges** across **Azure DevOps pipelines, Kubernetes (AKS)**, and cloud platform constraints, ensuring stable production deployment

Carbo Ceramic Inc/StrateGen

Jan 2023 - May 2023

Chief Architect

Led architecture review and transformation of a cloud platform, identifying critical risks in security, scalability, and cost efficiency

- **Reduced total** platform and infrastructure costs **from ~\$260K to ~\$10K annually** by eliminating unnecessary platform investment (~\$200K) and right-sizing cloud resources (~\$60K)
- Delivered executive-level roadmap and risk prioritization, enabling long-term system stability

Walmart (EPAM)

Apr 2020 - Jan 2023

Key Engineer/Architect

Led replacement of a legacy system as Architect / Key Engineer, designing scalable, reliable services on a 3TB Azure CosmosDB dataset, processing 150M daily updates in a mission-critical environment

- Reduced CosmosDB processing cost from **\$960K → \$48K annually** by redesigning the data model, introducing auto-scaling, and optimizing batch processing
- Designed and operated a distributed system processing **150M daily updates**, delivering real-time performance under normal load (seconds latency) and handling predictable daily bursts within defined SLA (30-60 min) while optimizing cost-performance tradeoffs
- Reduced infrastructure cost by **10x** through auto-scaling strategies and efficient resource utilization
- Re-architected legacy components into scalable, reliable services, ensuring consistent data quality and system stability in a mission-critical environment
- Built a core service framework separating business logic from infrastructure concerns, improving system maintainability and development velocity
- Implemented and deployed real-time monitoring and data quality controls, ensuring system stability and meeting strict SLA and non-functional requirements

Anadarko (EPAM)
Tech Lead/Architect

Mar 2019 - Apr 2020

Extended Microservice framework with OAuth support for authentication/authorization. Re-architected a core component in the IoT system to enhance reliability.

- Extended microservices framework with OAuth-based authentication and Azure AD integration
- Identified critical vulnerabilities in Microsoft OAuth SDK and improved system security
- Resolved long-standing connection pool issue, saving **20 hours/month** of engineering work
- Achieved real-time SLA of **<5 minutes**, eliminating multi-hour delays
- Re-architected and implemented messaging integration (RabbitMQ), introducing patterns such as dead-letter queues and priority processing
- Ensured long-term system stability with zero downtime over extended periods.
- **Eliminated persistent incident escalations** caused by data staleness **in an IoT system** (perceived as outages) by introducing real-time monitoring and redesigning data quality processes

Vanguard (EPAM)
Solution Architect (Consulting Engagement)

Sep 2018 - Mar 2019

- **Identified** scalability **limitations in GemFire-based** architecture caused by **JVM GC** under large heap sizes
- **Led transition to a scalable data architecture** (PostgreSQL / MongoDB + Redis), **validating** it through a **production pilot** that enabled downstream systems to consume live production data
- **Defined domain boundaries** and service decomposition strategy based on business capabilities, establishing the architectural roadmap for incremental system evolution and **enabling parallel team development**
- Delivered the first production service using the **Strangler pattern**, incrementally extracting functionality from the monolith **without disrupting production**
- Designed and led implementation of **modularization approach** using **OSGi** within **Eclipse RCP**, enabling **decoupled team delivery cycles** and **independent release cycles**

EPAM - Competency Center
Solution Architect (Consulting Engagement)

Apr 2016 - Sep 2018

Delivered architecture training programs across multiple European teams through on-site engagements, working directly with engineering groups to drive adoption of microservices practices and elevate engineering standards **across a 20,000+ engineer organization**

- Established architectural guidelines, training materials, and best practices to standardize engineering approaches across multiple teams
- Designed versioning and release strategy for microservices reference architecture
- Led adoption of microservices architecture across the organization
- Developed solution frameworks and reference implementations to support pre-sales and project delivery

Datalex (EPAM)
Development Lead/Scrum Master

Apr 2016 - Sep 2018

Re-architected a large-scale monolithic system (400+ engineers, 50 customizations)

- Built and **scaled engineering team** from **6 to 50 developers**
- Delivered critical releases for airline clients (COPA, JetBlue)

Early Career Experience (2007-2016)

EPAM — Tech Lead

True Trade Forex, Copyright Clearance Center

Demandware (Astound Commerce) — Lead Software Engineer

UGG, Adidas, Hugo Boss, Crocs, Guthy-Renker

TeamDev — Senior Software Engineer

iTrain SalonBiz, ComfyJ, JExcel, RosettaBio Syllego

Softline — Java Software Engineer

Ford dealership platform, National cultural portal (Ministry of Culture)

Education

Master's degree in Artificial Intelligence

Kharkiv National University of Radio Electronics, Ukraine - 2017

Bachelor's degree in Computer Science

Kharkiv National University of Radio Electronics, Ukraine - 2009

Awards

- Top 0.18% in national algorithmic contest (All-Ukrainian Olympiad, 2005, government-sponsored student competition)
- Consistent top performer in regional and national programming competitions (2001-2005)
- Hackathon winner — Quantum game (led team to deliver a winning solution, 2014)