

Taleh Ibrahimli

Senior AI Backend Engineer · High-Load Distributed Systems · Ultra-Low Latency
AI Architect (AWS, Rust/Java/Go)

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Professional Summary

Senior AI Backend Engineer with 10+ years building large-scale, high-load distributed systems and ultra-low latency AI/LLM solutions. Deep expertise in RAG workflows, agentic systems, and CPU profiling with perf for performance optimization. Expert in Rust, Java, and Go, with a strong focus on bridging the gap between advanced AI research and high-performance, low-level production environments.

Skills

- **AI & LLM Engineering:** RAG (Retrieval-Augmented Generation), Agentic/Tool-use workflows (LangChain, LangGraph), custom LLM orchestration, Prompt Engineering, Guardrails & Hallucination mitigation, Vector Databases (MongoDB Vector, pgvector, OpenSearch), Model Serving & Evaluation.
- **Programming Languages:** Rust, Python (AI/ML), Java (8+ yrs), Go (5+ yrs), Kotlin, C/C++, TypeScript/JavaScript
- **High Load, Ultra-Low Latency & Distributed Systems:** High-load & ultra-low latency design, Distributed Systems, CPU profiling with perf, low-level programming, Spring Boot, Spring WebFlux/Reactive, REST/gRPC, caching (Redis), messaging (Kafka/Kinesis/SQS), event-driven/CQRS, Microservices
- **Cloud Architecture & Platform (AWS):** VPC, EC2, ALB/NLB, Lambda, API Gateway, S3/CloudFront, RDS/Aurora, DynamoDB, ECR/ECS/EKS, EventBridge, SQS/SNS, Kinesis, Step Functions; IaC: Terraform/CDK; Well-Architected, cost optimization, resiliency
- **DevOps & SRE:** Kubernetes, Docker, Argo CD, Helm, Jenkins, CI/CD, observability (CloudWatch, X-Ray, Prometheus, Grafana, OpenTelemetry), blue/green & canary, incident response
- **Data & Storage:** PostgreSQL (pgvector), MongoDB (Vector Search), Redis, OpenSearch/Elasticsearch, Redshift; streaming pipelines; OLTP/OLAP design
- **Security & Compliance:** HSM, CloudHSM, KMS, PKI infrastructure, Cryptography, IAM, WAF, Cognito, OAuth2/OIDC, Secrets Manager; encryption at rest/in transit; GDPR/PCI awareness
- **Leadership & Practices:** AI/LLM Roadmaps, Architecture & platform design, team leadership/mentoring, code reviews, DDD, TDD, Agile/Scrum/Kanban

Experience

Senior AI Backend Engineer & Team Leader

[2K GROUP](#)

07/2022 - Current

- Leading the backend architecture and AI integration for the EvenPlay project. Focused on building scalable backend systems while incorporating advanced machine learning and computer vision capabilities to enhance gameplay and security.
- **Key Contributions:**
 - **AI & Computer Vision:** Built Python-based services employing machine learning for body and face detection, and integrated a robust facial recognition capability into gameplay flows.
 - **Game Intelligence:** Applied machine learning for gameplay parameter estimation and procedural content generation (new level generation) to enhance player experience.
 - **Backend & Cloud:** Orchestrated the deployment of the game platform on AWS using Kubernetes (Amazon EKS) with Terraform. Integrated managed services like SQS, SNS, and RDS for high scalability.
 - **Team Leadership:** Led a team of developers, providing guidance on both backend best practices and AI integration strategies.
 - **CI/CD & GitOps:** Implemented automated pipelines and GitOps (Argo CD, Helm) to ensure rapid and reliable delivery of AI and backend services.
- **Impact:** Successfully integrated AI-driven features into a high-load gaming platform, improving user engagement and operational efficiency.

Senior Software Engineer & Team Leader

[Billing Platform](#)

04/2021 - 07/2022

- As a Software Engineer and Team Leader at BillingPlatform, I played a pivotal role in enhancing the application's security through AWS CloudHSM, KMS, PKI infrastructure, and Cryptography. Leveraging Java, Kotlin, Spring Boot, and microservices, I successfully implemented robust encryption and secure key management mechanisms.
- **Key Contributions:**
 - **Application Level Encryption & HSM:** Led the development and implementation of robust encryption techniques using AWS CloudHSM and KMS to protect application data, ensuring confidentiality and integrity.
 - **PKI & Cryptography:** Established PKI infrastructure and cryptographic standards for secure service-to-service communication.
 - **OAuth2 Implementation:** Orchestrated the integration of OAuth2 authentication across microservices, establishing a centralized authentication mechanism for enhanced security and seamless user experience.
- **Impact:** Strengthened data protection and compliance, reduced security risk, and streamlined authentication across the microservices ecosystem.

Senior Software Engineer & Team Leader

[GoldenPay](#)

05/2020 - 05/2021

- Chief Architect and Team Leader focusing on transitioning a monolithic payment gateway to a scalable microservices architecture.
- **Key Contributions:**
 - **Microservices Transformation:** Redesigned and reimplemented the monolithic gateway into resilient microservices, improving system flexibility and maintenance.
 - **Performance & Security:** Optimized transaction efficiency and data protection through advanced architectural design and performance tuning.
- **Impact:** Improved system reliability and throughput while accelerating time-to-market for new features.

Software Engineer/Architect

[Crossover](#)

04/2017 - 12/2019

- Contributed to Aurora portfolio products, modernizing legacy Java applications and designing decoupled API layers.
- **Responsibilities:**
 - Modernized legacy Java applications by designing a higher-level API layer to decouple UI from core services.
 - Refactored backend services to align with new API contracts and domain boundaries.
- **Impact:** Improved maintainability and enabled seamless iterative migration for mission-critical applications.

Java Backend Developer

[Apexx](#)

11/2015 - 04/2017

- **Impact:** Contributed to backend service stability and delivery; improved reliability and code quality across core modules.

Java Backend Developer

[Baku State University](#)

01/2014 - 11/2015

- Developed the E-University platform, managing the full academic lifecycle for students and faculty.
- **Tech stack:** Java, PostgreSQL, Sencha with GWT/GXT.
- **Impact:** Delivered full-stack features that improved university management efficiency.

AI R&D Highlights

Production-grade R&D and prototypes in the AI/LLM space.

- Designed RAG and agentic workflows with LangGraph/LangChain and custom-built workflow systems; leveraged vector databases (MongoDB vector, pgvector) for hybrid retrieval.
- Prototyped AI application architecture and safety patterns: prompt design, guardrails, and hallucination mitigation strategies.
- Set up evaluation/observability for AI experiments: scenario-based A/B tests, performance/quality analysis, and cost/latency optimization using OpenTelemetry.

Open Source

- <https://github.com/tislib/roda-state>: Zero-copy, lock-free multithreaded pipeline in Rust designed for ultra-low latency environments. By heavily profiling the CPU architecture, it bypasses standard multi-threading performance traps to strictly saturate the L1 cache bandwidth.
- Engineered a zero-copy, lock-free multithreaded pipeline in Rust, achieving a peak algorithmic throughput of 58.7 million elements per second (MEPS) in CPU-bound stateful workloads.
- Processed 24 million real-world MBO market data events with an unloaded median latency of 1.2 μ s, completely decoupling disk I/O bottlenecks from the algorithmic hot path.
- Defeated cross-core MESI protocol overhead by implementing dynamic block processing (read_window), reducing L1 cache misses to 0.73% and boosting IPC to 1.93.
- <https://github.com/apibrew/apibrew>: Low Code system for building REST APIs, showcasing complex backend architecture and automation.
- <https://github.com/tislib/logi>: DSL language definition system, demonstrating deep understanding of parsing and language design.

Certifications

- AWS Certified Solutions Architect – Professional (in-progress)
- Certificate: Semi-Finalist of ACM Programming Contest in Georgia, 2013
- Certificate: High Achievement certificate of ACM Programming Contest, 2013

Education

- Bachelor's degree in Computer Science and Applied Math — Baku State University (2010 - 2014)