

Dmitrii Kalianov

Kalyanov.Dmitry@gmail.com | <https://www.dmitryvk.me/> | <https://github.com/dmitryvk> | +374 55 346 259

- **15+** years of **Software Engineering** experience
- A generalist with specialization in **Backend Development**, but also open to other roles.

Work Experience

05/2022–present Wildberries, Armenia

Lead developer at the largest online marketplace in Russia and CIS countries.

Highly available and high-throughput backend services.

Tech stack: Rust, C++, gRPC, Postgres

- Improved the latency and throughput of an in-memory data store by **2.5x** by implementing Epoch-Based Memory Reclamation.
- Delivered web server that enabled crucial optimization that cut down the disk IO utilization by **75%** and the latency by **30%**. This is a mission-critical software whose failure would cost **\$200** per second.
- Reduced the query latency by **8x** and eliminated query timeouts during peak traffic by switching to a new data store for which I designed a leaderless replication protocol.
- Kick-started the machine learning division of the team by developing the first version of a computer vision system and interviewing CV/ML engineers.
- Conducted **20+** SWE job interviews resulting in 5 hires.
- Reduced by **15x** the inference latency and memory consumption of an ML-based image classification model by implementing clustering during model learning.
- Reduced the false positive rate of alerts by **5x** by implementing non-parametric statistical models of user traffic.
- Reduced memory consumption by **100x** in an internet-facing web server (from 100 GB on each host down to less than 1GB) by fixing a hard-to-diagnose resource leak.

04/2012–05/2022 Bars Group, Russia.

Senior software engineer at a leading vendor of enterprise software.

Tech stack: C#, JavaScript, Postgres, ClickHouse, ASP.NET, ExtJS, Java, C++, Rust.

- Developed an Oracle PL/SQL to Postgres PL/pgSQL transpiler which cut down by **80%** the effort to migrate more than 100MB of procedural SQL code to Postgres.
- Fixed an outage of a SaaS system affecting **90%** of the customers during the peak usage time by live debugging the production Postgres instance.
- Developed a profiler for Mono applications and optimized the application loading time by **20x** (from >5 seconds down to <0.25 seconds).
- Improved the incremental build time by **10x** and the defect rate in the frontend code by **10%** by migrating from an ad-hoc build system to Webpack.
- Evolved the in-house framework from server-side javascript generation to an SPA frontend which cut down the app loading time by **2x** and data loading time by **5x**.
- Optimized the data import pipeline memory consumption by **>1000x** and throughput by **10x** by implementing streaming deserialization of JSON, CSV and XML files.

- Decreased the lead time for new features from 8 months to **10 weeks** by evangelizing for and implementing the switch to the 6-week release cadence.

2011–2012 10tracks, Russia.

CTO at a startup with a mission to stream music to mobile devices.

- Delivered a SPA frontend and a web backend that achieved **80k RPS** on a single server.

Tech stack: Java, JavaScript, ExtJS, C, MongoDB.

2006–2011 Various companies, Russia.

- Started working while studying at the university and grew into a **senior developer**.

Tech stack: C#, ASP.NET, JavaScript, WPF, C++

Open Source

- Authored **3** OSS libraries: [async-fn-stream](#) (**20k** downloads), [cl-gtk2](#), [cl-sqlite](#).
- Developed a [text editor](#) (**7k** downloads; in C++) for math note-taking.
- Multiple large contributions to open-source projects. Examples:
 - Windows multi-threading support in the garbage collector and the machine code generator of the [SBCL](#) compiler.
 - Parameterized query support in the .NET [driver](#) for the ClickHouse database.
- **20+** patches to OSS projects. Examples:
 - PulseAudio: fixed a 4-year-long Bluetooth audio lag issue.
 - Mono .NET Runtime: series of patches to make .NET apps crash less on Linux.

Education

Applied Mathematics and Computer Science, Specialist **with distinction**, Kazan State University, 2009

Skills

Main languages: Rust, C#, Java, JavaScript, C++ **Frameworks:** Axum, ASP.NET, Spring Boot

Familiar with: C, HTML, CSS, TypeScript, Python, React, Go, PHP, Common Lisp

Data storage: Postgres, ClickHouse, SQLite, Oracle, MS SQL Server, RabbitMQ, Kafka

Supplementary technologies: Git, Docker, Kubernetes, Maven, Make, CMake, Meson, Autotools, numpy, scikit-learn, Webpack, Prometheus, Grafana, ANTLR, Linux, Bash, Ansible, Hibernate, Entity Framework, jOOQ, XML, JSON, YAML, gRPC, Protobuf, Messagepack, JUnit, NUnit, GDB, LLDB, perf, Gtk+, Selenium/WebDriver, Wireshark, Nginx, Gitlab CI, PyO3

Techniques: Unit testing, load testing, randomized testing, basic and advanced algorithms and data structures, syntactic analysis, distributed systems