

Maksim Shcherbo

I build infrastructure that **must not fail** — and stop outages before they happen.

Staff Backend Engineer — Distributed Systems & Reliability

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SUMMARY

Open to senior and staff IC roles — hands-on, no people management.

I build and run high-load backends that hold when failure costs money, trust, or sleep: **16k+ RPS** through mega-sale surges, **\$2B+ staked across 33k+ validators**, and fixes merged upstream into the open-source infrastructure my systems depend on. I keep complex business domains safe to change and easy to reason about, and raise the engineering bar by proof, not mandate.

SKILLS

Languages Go (primary) · Rust · PHP · TypeScript

Architecture & design DDD · CQRS · event sourcing · functional core

Data stores PostgreSQL · MySQL · Redis · Aerospike · ElasticSearch

Messaging RabbitMQ · NATS

Cloud & runtime AWS · Azure · Kubernetes · Docker

APIs & integration REST · gRPC · OpenAPI (schema-first) · OAuth2/JWT

Observability OpenTelemetry · Prometheus · Grafana/Loki/Tempo · ELK

Quality TDD · ODD (observability-driven development)

Blockchain / Ethereum Staking · MEV-Boost · production ops at validator-fleet scale

EXPERIENCE

Senior Software Engineer · ConsenSys

Jun 2021 – Present

London, UK

Built ConsenSys Staking from the ground up — the Ethereum staking backend behind MetaMask, serving institutional clients at **33k+ validators** and **\$2B+ staked**.

- Established SDLC practices as an IC without formal authority: OpenTelemetry-by-default, RFC-first features, ADRs for decisions, repo standards, and CI gates — adopted across my team and picked up by adjacent teams.
- Designed a multi-tenant API prioritizing correctness over throughput: row-level-security isolation, idempotent writes, audit trails, and a checkpointed state machine — no duplicate side-effects, safe resume after partial failures.
- Lighthouse: fixed an $O(n) \rightarrow O(1)$ keystore-decryption path causing validator restarts; upgrades resumed at **99.9% attestation**. [Issue #4936](#) → [PR #4126](#).
- Built and operated a production MEV-Boost fork for a tier-1 exchange: relays configurable per validator, hot-reloadable (atomic, lock-free swap), with the Prometheus instrumentation it originally lacked — **~26% lower latency**. [Issue #455](#).
- Designed and built a Kubernetes snapshot operator for Ethereum nodes, replacing week-long resyncs with snapshots to cut cluster rebuilds from **days to minutes** and enable rapid provisioning and disaster recovery.

Senior Software Engineer · Clearmatics

Aug 2019 – Jun 2021

London, UK

Proved BFT proof-of-stake viable on an EVM chain — a working prototype, **before Ethereum's Merge**.

- Patched go-ethereum to run a Tendermint-style BFT consensus layer.
- Cut build times **~40%** — rebuilt CI with caching, parallelization, and reproducible artifacts.
- Hardened the consensus paths with characterization tests + TDD, raising coverage to **~80%** so the trickiest code was safe to change.

Head of Research & Development · DAO.Casino

Oct 2018 – Aug 2019

Moscow, Russia

Proved **verifiable, unbiased on-chain randomness** feasible — end-to-end PoC on Tendermint/Cosmos.

- Built a **threshold-BLS random beacon into Tendermint consensus**: the proposer combines validators' precommit shares into the block's random value — but must commit the block's transactions before that value exists, so it can't predict or bias the outcome.
- **Unbiasable and publicly verifiable** — strong enough for a game of chance, not just cryptographic sortition. Delivered the full prototype: patched Tendermint, a Cosmos SDK app (randapp), and a kyber-based Go DKG library, with tests validating it end-to-end.

Tech Lead, Core Backend · Humaniq

Nov 2017 – Oct 2018

Moscow, Russia

Mobile-banking app for the unbanked — Go service platform across **~20 services**, ~10-person team.

- Brought a fragmented estate of **~20 services** under one standard: a Go service template + shared libraries (gRPC/HTTP, structured logging, tracing, panic recovery) and clean-architecture/DDD conventions that a team of ~10 shipped every new service on by default.
- Owned the platform's hardest service hands-on — a wallet moving user funds: every transfer gated on multi-step validation of both sender and receiver (geo, blacklist, account status) before async settlement via RabbitMQ.

Senior Software Engineer · Lazada (acquired by Alibaba Group)

May 2015 – Nov 2017

Moscow, Russia

Core product-catalog backend — **16k+ RPS/instance**, **p95 <100 ms**, **99.9%** through 11.11 / 12.12 surges.

- Data access & persistence: DAL with CQRS read/write separation — writes to masters, reads from replicas across sharded/partitioned MySQL; read latency **p99 <120 ms** while isolating write load.
- Microservices infra (pre-Kubernetes): etcd service discovery + Docker orchestration for reliable rollouts and fast instance replacement; centralized Elastic Stack logs and Zipkin-style tracing for on-call.
- Legacy PHP → Go migration: incremental replacements behind a compatibility layer with production-example tests — lower latency/CPU per request, safe staged cutovers.

Head of Development · Auction & Tender House

Mar 2012 – May 2015

Moscow, Russia

Regulated e-procurement platform — **FSB/FSTEK-audited**, DDoS-hardened.

- Regulated e-procurement overhaul: rebuilt auction/tender flows with DDD, CQRS, and event sourcing; read/write split + caching cut critical paths from **minutes to milliseconds**, with deterministic, verifiable records that reduced disputes.
- Availability & resilience: single server → clustered/redundant with upstream DDoS scrubbing and a reserve data center after a ~2 Gbps attack — ad-hoc response replaced by repeatable playbooks.
- Security & compliance: passed FSB/FSTEK-accredited audits for Commercial Secret data; four-eyes release control and immutable audit logs enabled forensic replay and dispute resolution.

EDUCATION

MSc, Software Development and Information Security Systems

North Caucasian Federal University · Stavropol, Russia

Advanced College Diploma, Software Development & Automated Systems Design (high distinction)

Stavropol College of Communications · Stavropol, Russia