Aliaksei Bileichyk

Senior Backend & Platform Engineer — TypeScript, Node.js, AWS, PHP

Warsaw, Poland · Authorized to work in Poland, no sponsorship needed · Remote, hybrid or office · B2B or UoP

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Live projects: rollty.rentals · bledger.app · lab.geqo.space

Summary

Backend engineer with 10+ years on production web systems, most recently on a multi-tenant real-time 3D streaming platform on AWS (Node.js/TypeScript, CDK, Lambda, Step Functions, DynamoDB, GameLift). I work where backend meets infrastructure: tenant isolation and access control, data-model migrations on live systems, serverless scaling limits, and root-causing incidents.

Outside work I build and run my own products end to end: a rental-business CRM in production use and an event-driven telemetry platform on Kafka and TimescaleDB. I use AI coding agents in a disciplined way: design docs first, parallel agents with test gates, review before merge.

Experience

Mytaverse — Backend & Platform Engineer (contract), Warsaw

March 2026 – Nov 2026 (rehired) · Oct 2024 – Mar 2025

Real-time 3D / Unreal Engine 5 pixel-streaming platform: web hub, admin CMS and a Node.js/TypeScript backend on AWS (CDK, Lambda, Step Functions, DynamoDB, S3, Cognito, GameLift Streams).

2026:

- Led the migration from three legacy release, fleet and streaming stores to one deployment model across backend, admin CMS and web client in about three weeks. Every AWS resource the publish state machine creates is now recorded per deployment; live deployments were backfilled and legacy writes stopped.

- Audited authorization across the multi-tenant API and closed 22 access-control and tenant-isolation defects (IDOR, unauthenticated presigned uploads, cross-tenant reads, SSRF, over-broad IAM), each with regression tests.
- Designed tenant-owned builds and public/private map catalogues for the SaaS rollout: tenant-aware S3 layout with a cleanup job, multipart uploads over 5 GiB, organization-scoped GSIs and backfill migrations. Wrote the schema and contract doc first, then ran the implementation as parallel agent workstreams behind full test-suite gates.
- Fixed list endpoints that failed at the 6 MB Lambda response limit or silently truncated at DynamoDB's 1 MB page. Added projections, pagination and in-Lambda brotli/gzip: responses 73–91% smaller.
- Root-caused an inverted EC2 readiness check that made about 95% of game-server publishes fail their first attempt and could leave never-ready instances billing. After a live-session incident, built drain-aware republish and daily auto-restart.
- Built a code-based DynamoDB migrations framework that runs on deploy, with locking and failure guards. Adopted by the team: 52 migrations, a third written by other developers. Added an audit log for critical changes.
- Built AWS resource-leak reconciliation with guarded cleanup, and removed about 59k lines of dead and legacy code, including a whole legacy admin app.
- Wrote about 200 specs and bug reports, including cross-team contracts with the UE5 client team, and kept an indexed knowledge base of 19 root-cause investigations.

2024–2025:

- Built GameLift server provisioning on EC2: instance registration, port allocation, commands over SSM, server start and health checks, binding game sessions to rooms.
- Built release and fleet creation as Step Functions state machines with error branches and Lambda-based resource cleanup; GameLift build creation and old-build cleanup.
- Moved notifications to SQS, added batch event invitations, and handled Cognito user and participant lifecycle for pixel-streaming clients.

Belitsoft — Full-Stack Developer (PHP), Warsaw

Jan 2019 – Jul 2024

Key developer on high-load learning management systems and enterprise web applications (PHP, Laravel, MySQL, Redis).

- Led backend development of an LMS serving thousands of concurrent users; optimized database queries and Redis caching for peak load.

- Built a zero-downtime deployment system on Nginx and shell scripting that replaced manual releases.
- Mentored junior developers, ran code reviews and introduced shared coding standards.

Earlier

PHP developer, 2014–2018.

Selected projects

Rollty — rental-business CRM (founder, sole engineer), 2026. Laravel 12, Filament, PostgreSQL, Redis, WebSockets (Reverb), Docker, GitLab CI. In production use by a bike-rental business. Append-only, hash-chained financial ledger with database-enforced immutability; automated daily billing and investor revenue sharing; multi-organization tenancy; client self-registration via an Android kiosk and a Telegram Mini App with passport MRZ OCR. About 1,900 automated tests in CI, 320+ tagged releases, backups that gate production migrations.

Geqo Observer — real-time game telemetry platform, 2025–2026. C#/.NET 10, Kafka, PostgreSQL + TimescaleDB, MessagePack + LZ4, SvelteKit. Runs in production on live Counter-Strike 2 servers. Exactly-once effects over at-least-once delivery, dead-letter queue with replay. Cut over from a legacy PHP API without breaking consumers; verified on a week of replayed production traffic (165/165 match results identical). Diagnosed and fixed a 2M-message Kafka backlog caused by TimescaleDB chunk decompression.

B-ledger — verifiable shared-debt app, 2026. TypeScript monorepo: Expo / React Native, Node.js + Hono, PostgreSQL, WebSockets. Every entry is hash-chained and signed by both parties with hardware-backed P-256 keys or passkeys, so neither side nor the server can rewrite history. About 900 automated tests; API live, iOS builds in TestFlight.

Also: a marketplace census collector covering about 655k listings under a hard pagination cap (Python, PostgreSQL); a battery-pack design tool validated against telemetry from a self-built ESP32 CAN logger; an MCP server that lets an AI agent build, flash and visually verify ESP32 firmware.

Skills

- **Languages:** TypeScript, PHP, C#, Python, SQL, Bash

- **Backend:** Node.js (Express/TSOA, Hono), Laravel 12 + Filament, .NET 10, REST APIs, WebSockets
- **AWS:** CDK, Lambda, Step Functions, DynamoDB, S3, EC2, IAM, Cognito, SES, SQS, GameLift / GameLift Streams, CodePipeline
- **Data and messaging:** PostgreSQL, TimescaleDB, MySQL, DynamoDB, Redis, Kafka
- **Infrastructure and delivery:** Docker / Compose, GitLab CI, Bitbucket Pipelines, Nginx, Cloudflare, Linux, Sentry, self-hosted GitLab and runners
- **Security:** tenant isolation and access-control audits, IAM least privilege, SSRF hardening, API-key auth, WebAuthn / passkeys
- **Testing:** Jest, Vitest, PHPUnit / Pest, Laravel Dusk, xUnit, pytest, Playwright
- **AI-assisted engineering:** Claude Code, multi-agent workflows with written briefs and test gates, custom MCP servers

Languages

English — B2/C1, fluent spoken · Russian — native