Ihor Andrianov

Software Engineer

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SUMMARY

Backend engineer with 4+ years of experience building distributed systems in Rust and TypeScript/Node.js. Currently working on cloud and on-prem access governance at Cyberdesk: data pipelines on DuckDB/DuckLake, AWS, Azure and Active Directory identity scanning, and access-graph computation at multi-million-record scale. Strong in data-intensive backends, CQRS/Event Sourcing, async processing, and performance and memory optimization of production systems. Featured in the Turso community spotlight for open source database contributions.

EXPERIENCE

Software Engineer · Cyberdesk

Feb 2026 – Present

TypeScript · Rust · DuckDB/DuckLake · PostgreSQL · DynamoDB · AWS · Azure · Active Directory

- Re-architected a multi-tenant DuckDB/DuckLake analytics lake on S3 and Postgres: atomic blue-green publishing, self-healing incremental ingestion from DynamoDB exports, and crash-safe commits; 180+ merged PRs to the core backend in six months.
- Delivered identity and access analysis across AWS Identity Center, Azure, and on-prem Windows SMB/NTFS and Active Directory, from scanners and ingestion through the access graph to posture alerts.
- Fixed production OOM failures in access preparation, shrinking a 12.7M-entry history expansion to 17 and run time from 113 s to 18.7 s, with results verified identical across 12.4M access pairs.
- Prototyped a Rust access-graph engine modelling AWS IAM evaluation (boundaries, SCPs, conditions, denies), cutting principal aggregation ~31× and peak memory from 76 GB to 1.1 GB on a 730k-node graph.

Software Engineer · Favbet Tech

Jun 2025 – Nov 2025

Rust · Tokio · CQRS/Event Sourcing · OpenAPI · Prometheus · AWS S3 · FFmpeg

- Built a secure document-signing platform processing 1,000+ signatures/day using CQRS/Event Sourcing with sagas, multi-tenant RBAC, and event-driven projections.
- Integrated Ukrainian PKI cryptography (UAPKI) via custom Rust FFI bindings with PKCS#12 certificate management and encryption.
- Architected a computer-vision video platform: chunked large-scale uploads to S3, FFmpeg processing, granular sharing permissions, and ML model integration for automated video analysis.
- Implemented the security layer: session auth, TOTP 2FA, Argon2 hashing, AES-GCM encryption, and rate limiting.

Backend Developer · Sweet Stack Digital

Jan 2022 – Jun 2025

TypeScript · Node.js · Fastify · PostgreSQL/PostGIS · Redis · BullMQ · ELK · OpenAI API

- Architected the backend for a UK parking aggregator covering 5,000+ locations, with PostGIS radius search and REST/GraphQL APIs for multiple frontends; cut search latency by 60% with Redis and BullMQ.
- Built a sales-automation backend and Chrome extension with OpenAI-based job matching and ranking, reducing manual application time by 90% and improving conversion rates by 80%.
- Led adoption of TypeScript, property-based testing, and ESLint across mission-critical services, and built internal CLI tools cutting service setup from 1–2 hours to minutes.
- Researched and prototyped emerging technologies on 48-hour notice, securing 3 new enterprise contracts.

OPEN SOURCE

Turso · SQLite rewrite in Rust — 2025 · 16 merged PRs

- Implemented SQLite's binary JSON format (JSONB) from scratch, covering the parser, serializer, and path traversal, and moved every JSON function onto it, removing the serde dependency. Turso's Change Data Capture (CDC) feature was later built on this code.
- Delivered over a dozen JSON/JSONB SQL functions (json_patch per RFC 7386, extract, set, insert, replace, remove, and the group aggregates), with a per-query JSON cache modelled on SQLite's.
- Rewrote the JSONB parser from iterators to slice-and-cursor, bringing benchmarks close to SQLite for typical document sizes.
- Improved engine correctness and SQLite compatibility: STRICT tables, deterministic floating-point math and SQLite-exact float formatting, aggregate queries without GROUP BY, and binary search in B-tree cell lookup.

TECHNICAL SKILLS

Languages	Rust, TypeScript/Node.js, Go, SQL
Frameworks	Axum, Tokio, SQLx, NestJS, Fastify
Databases & Caching	PostgreSQL, PostGIS, DuckDB/DuckLake, DynamoDB, Redis
Cloud & Infrastructure	AWS (S3, ECS, IAM, Identity Center), Azure, Docker
Architecture	CQRS/Event Sourcing, Sagas, Microservices, REST/GraphQL APIs
Tools	FFmpeg, Prometheus, ELK Stack, OpenAPI, BullMQ