

Akhidjon Abdullaev

Backend Engineer | PostgreSQL · Observability · Applied AI

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SUMMARY

Backend engineer specializing in PostgreSQL observability and anomaly detection, with applied AI integration. Shipped a production anomaly detection pipeline — Prophet forecasting plus a stateful streak-based detector across 12 database metrics at 1-minute resolution — from initial commit to merged-to-master in 3 months. Previously built and operated a full-stack e-commerce platform serving 7,000+ users for 2+ years. Open to remote roles globally.

- **Production anomaly detection:** 2 services, 12 metrics, 5 retraining policies, shipped and operated in production
- **E-commerce at scale:** 7,000+ users, 4x API speedup, web and mobile deployed to App Store and Play Store
- **AI certifications:** DeepLearning.AI Generative AI for Software Development and Agentic AI (2025)

TECHNICAL SKILLS

Primary	Python · Go · PostgreSQL · TimescaleDB · FastAPI · Gin
Secondary	JavaScript/TypeScript · Node.js · React · Flutter · Django
Infrastructure	Docker · Supervisor · Grafana · Prometheus · AWS (S3, EC2) · GitLab CI/CD
Database	PostgreSQL · TimescaleDB · pgvector · MySQL · MongoDB
Domain	Anomaly detection · Time-series forecasting (Prophet) · Isolation Forest · Database observability · ASH

PROFESSIONAL EXPERIENCE

Inzent Co., Ltd. Aug 2025 — Present
Backend Engineer — eXperDB PostgreSQL/TimescaleDB Monitoring Platform · Seoul · Full-time

Anomaly Detection System (Core Project — Shipped to Production)

- Designed and shipped end-to-end anomaly detection from initial commit to merged-to-master in **3 months**: two-service architecture with Prophet forecasting and stateful streak-based detector processing **12 PostgreSQL metrics** across production clusters at 1-minute resolution.
- Built **5 configurable retraining policies** (1d to 30d windows) with per-metric tuning: deviation thresholds, min streak, anomaly direction (high/low/both), and logistic vs linear growth model selection.
- Diagnosed and fixed production incidents under live load: connection exhaustion (consolidated to shared DB connection in detector), worker starvation (reduced worker count, added training guardrails), and Prophet seasonality overfitting causing stale prediction bands.
- Implemented stateful streak-based detector with oscillation reset logic, backfill marking on threshold confirmation, and ON CONFLICT DO NOTHING for append-only anomaly writes.

Platform, Security & Alerting

- Re-architected notification system from **1:1 to 1:many channel mapping**, enabling alerts delivered across Slack, SMS, and email simultaneously per rule.
- Designed and implemented backend APIs for monitoring, anomaly configuration, and Grafana alert rule lifecycle management; redesigned request contract to handle large payloads previously blocked by the 8KB header limit.
- Integrated Grafana dashboards with actual vs predicted vs confidence band visualization, alert history panel, and automated alert rule provisioning per cluster.

Database Engineering

- Designed TimescaleDB schema with hypertables, 30-day prediction retention, and 90-day anomaly retention.
- Implemented ClickHouse for metrics collection and storage of database metric values.

Albazaar — Independent / Contract

Jan 2023 — Jun 2025

Founding Engineer / Full-Stack — Grocery E-commerce Platform · Remote · 2.5 years

- Designed and built a grocery e-commerce platform from scratch; sole engineer on backend, web app (React), and mobile app (Flutter), both deployed to **App Store and Play Store**.
- Grew platform to **7,000+ active users**; integrated SMS authentication (AligoSMS) and AWS S3 media storage; re-architected API layer achieving **4x response speed improvement**.
- Operated and maintained the platform in production for 2+ years before handover in 2025.

Adriel Inc.

Feb 2024 — May 2024

Backend Developer Intern — Ad-tech Platform · Seoul · 4 months

- Built automated YouTube API data collection system with rate-limit-aware overnight scheduling for batch processing.
- Developed internal dashboard APIs; participated in production code reviews with senior engineers on API performance and code quality.

AliasAuto — Contract

Built in 30 days, 2024

AI-Powered OCR System — Car Dealership Automation

- Built OCR pipeline for vehicle invoices using OpenAI API with image preprocessing (denoising, contrast enhancement); processed 100+ records, replacing manual data entry.

OPEN SOURCE

PGViewer — Creator & Maintainer

May 2026 — Present

Graph Viewer for PostgreSQL 19 SQL/PGQ (ISO/IEC 9075-16:2023) ·

github.com/aoncodev/PGViewer

- Designed and built an end-to-end property graph viewer for PostgreSQL 19's native SQL/PGQ: Go backend (chi, pgx v5, pure-Go SQLite) streaming NDJSON results to a React 19 + Cytoscape.js renderer, packaged as an Electron desktop app and a standalone web binary from a single transport contract.

EDUCATION

Kyung Hee University

Mar 2018 — Aug 2023

B.S. Computer Science · Seoul, South Korea

CERTIFICATIONS

- Generative AI for Software Development — DeepLearning.AI, 2025
- Agentic AI — DeepLearning.AI, 2025
- KIIP (Korea Immigration and Integration Program) — Level 5, Korean Government

LANGUAGES

Korean Fluent (TOPIK 6) · **English** Fluent · **Uzbek** Native · **Russian** Conversational