

SHADA DAAB

Full Stack Software Engineer · Real-Time Trading Systems · Go · TypeScript · PostgreSQL · ClickHouse

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SUMMARY

Full stack engineer with 3+ years of hands-on development, currently the primary engineer behind the Go + Next.js platforms of **NanoShield** (FPGA pre-trade risk control) and **FLARE** (HFT latency monitoring) for Borsa Istanbul, from PostgreSQL/ClickHouse schemas and gRPC to WebSocket streaming and UI. Also builds open-source AI infrastructure and ships AI products end to end.

EXPERIENCE

Full Stack Software Engineer · Bull Technology

Istanbul, Turkey · Dec 2024 – Present

NanoShield — *real-time pre-trade risk control for Borsa Istanbul equities & derivatives (FPGA / DPDK cores)*

- Lead engineer of the platform's application layer (~98% of Go backend, ~92% of Next.js frontend commits): ~100 REST/WebSocket endpoints and 15 operator screens for limits, alerts, orders and positions across a 4-level account hierarchy.
- Cut alert-stream **p99 latency from 5 s to 90 ms**, backend **CPU from 98% to 12%** and **memory from 1 GB to 60 MB** under load by replacing full re-sorts with a heap-based top-N, throttling stats rebuilds and swapping 500 KB snapshots for delta events; cut a hot alert query **from 4.9 s to 30 ms** with composite and expression indexes.
- Built the live data pipeline: PostgreSQL LISTEN/NOTIFY → Go broadcasters → WebSocket hub → React/SWR.
- Unified the FPGA and DPDK risk engines behind one UI using gated dual gRPC writes plus a transactional outbox and reconcile worker to keep two PostgreSQL databases consistent.
- Hardened security and quality: JWT with refresh/denylist, row-level security, account-scoped RBAC, a data-masked demo role, a full mutation audit log, and 240+ Go (race-detector) and Vitest tests gated in CI.

FLARE — *network & market-data latency monitoring for HFT (ITCH / OUCH / FIX capture, ClickHouse)*

- Primary engineer of the v1 platform: Next.js UI (21 pages) and a Go service (31 REST/WebSocket endpoints) streaming order-book depth, candlesticks, time-and-sales and port-to-port latency analytics.
- Replaced long polling with SSE/WebSockets; built a dynamic ClickHouse query and filter builder with cursor pagination over nanosecond-timestamped market data, plus CSV export and multi-tenant RBAC.
- Automated node provisioning with Bash + systemd (~27 MergeTree tables with TTL, Go server, UI), and now building Go order-entry services with mTLS, idempotent exactly-once delivery and Prometheus metrics.

Software Developer Intern · Okatan Sağlık Ar-Ge A.Ş.

Istanbul, Turkey · Oct 2024 – Dec 2024

- Developed courier-service features for delivery tracking and product exchange/return workflows.

Freelance Frontend Developer · Luminalgoo

Istanbul, Turkey · 2024

- Built the company's bilingual (Turkish/English) website for its 2Tekerlek courier service in React, TypeScript and Redux.

PROJECTS

Switchyard — Open-Source LLM Gateway · [Live demo](#) · [GitHub](#)

2026

Go · Redis · PostgreSQL · ClickHouse · OpenTelemetry · Next.js · Docker

- OpenAI-compatible gateway with multi-provider fallback (OpenAI, Anthropic, Gemini), circuit breakers, per-key rate limits and budgets, caching and real-time ClickHouse analytics with a Next.js dashboard.
- **≤0.13 ms p99 overhead at 7,500 req/s**; 100% success with a failing or down provider; SSE flush coalescing cut CPU 56%.

Tummie — AI Gut-Health App · [Live on the App Store](#)

2025 – Present

React Native (Expo) · TypeScript · Node.js/Express · Supabase PostgreSQL · Gemini · Superwall

- Solo-built and shipped an iOS subscription app: ~110K lines of TypeScript, 90+ screens, 118 API endpoints.
- Food-symptom correlation engine over 0–48 h lag windows powering a 7-day risk forecast; AI meal analysis over SSE.

SKILLS

Languages	Go, TypeScript, JavaScript, Rust, SQL, Bash, Java
Backend	Go (pgx, gorilla), Node.js/Express, gRPC/Protobuf, REST, WebSockets, SSE, JWT/RBAC
Frontend & Mobile	Next.js, React, React Native (Expo), Tailwind CSS, Zustand, SWR, TanStack
Data	PostgreSQL (RLS, LISTEN/NOTIFY, indexing), ClickHouse, Supabase, Redis
Infra & Testing	Linux, systemd, Docker, Jenkins, GitHub Actions, Prometheus, OpenTelemetry, Go race & fuzz testing, Vitest
Domain	Pre-trade risk, market data (ITCH, OUCH, FIX), LLM gateways & integration (OpenAI, Anthropic, Gemini)
Spoken	Arabic (native), English (professional), Turkish (professional)

EDUCATION

B.Sc. Software Development, Business Admin. Minor · **Istanbul Aydın University** · Honors · GPA 3.4/4.0

2022 – Jun 2026