Mohammad Kabalan

Senior Software Engineer | Distributed Systems & Software Architecture
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PROFESSIONAL SUMMARY

Software engineer and technical lead with 9+ years building AI-native products end to end: full stack from schema to frontend, with the LLM layer that increasingly ties them together. Own systems from architecture decisions to production operations (CI/CD, monitoring, on-call), and ran a high-availability 999 emergency-response platform at Siemens. Strong backend and distributed-systems focus: multi-tenant SaaS, API design, database-level security, async/event-driven architecture, and microservices on GraphQL Federation.

TECHNICAL SKILLS

System Design: Distributed systems, Microservices, GraphQL Federation, Event-driven architecture, Multi-tenant SaaS, API design, Caching, Job queues, Database design & indexing, Row-Level Security, RBAC, High availability

Generative AI: Agentic AI, AI Agents, Multi-Agent Systems, Agentic RAG, LangChain, LangGraph, LLMs (OpenAI, Anthropic, Gemini), MCP, Tool Calling, Structured Outputs, Context Engineering, Prompt Engineering, Embeddings,

Languages: Python, TypeScript, JavaScript, C#, PHP

Backend: FastAPI, Node.js, Express, NestJS, ASP.NET Core, Laravel, RESTful APIs

Frontend: React, Next.js, Tailwind CSS

Cloud & DevOps: AWS, Docker, GitHub Actions

Databases: PostgreSQL, MongoDB, Redis, SQL Server

PROFESSIONAL EXPERIENCE

Senior Full-Stack Developer | Propwise Real Estate, Dubai *Feb 2026 – Sep 2026*

- Engineered database-level tenant isolation for a multi-tenant SaaS platform with PostgreSQL Row-Level Security, so a missing application-layer filter cannot leak data across tenants, eliminating an entire class of correctness bugs.
- Built the platform's async-work foundation on a Postgres-native job queue (pg-boss, no Redis/RabbitMQ): worker concurrency, deduplication, retries with backoff, and reconciliation sweepers ensuring no job is silently dropped.
- Replaced a slow multi-table ILIKE search with a denormalized search index and async indexer pipeline, cutting median query latency from ~800 ms to under 100 ms; added full-text/trigram query routing over GIN indexes and Arabic/mixed-script normalization for a bilingual user base.
- Designed two-layer RBAC (endpoint guards + per-record permission flags) with a 5-minute permission cache, cutting per-request authorization lookups by ~70% while cache invalidation keeps role changes near-instant.
- Built tamper-resistant audit logging in PostgreSQL: triggers on 35 tables record every insert/update/delete with before/after values, user, session, and IP, so neither application code nor raw SQL can bypass it.
- Built a multi-portal real estate syndication system (Property Finder, Bayut, dubizzle): REST push with async webhook confirmation, public XML feeds, credit gating, and a 9-state sync state machine, plus automated inbound lead capture from portal webhooks and polling APIs into the CRM pipeline.
- Built an automated lead-distribution and escalation system: priority-ordered rules with workload balancing and skill matching, plus a tiered state machine (notify, re-tag, redistribute) that detects stale leads, all running async via a job queue so assignment never blocks lead intake.

Senior Software Engineer | Siemens, Dubai *Nov 2023 – Jan 2026*

- Owned end-to-end development and production support of the 999 emergency-response platform, a high-availability system where downtime directly impacts public safety and emergency response times.
- Re-architected the incident distribution and escalation engine, replacing legacy routing logic with a rule-driven pipeline that dispatches incidents to the correct response units and automatically escalates unacknowledged or overdue cases, reducing missed-SLA incidents and manual dispatcher intervention.

- Designed and delivered real-time operator dashboards streaming live incident state, unit availability, and SLA alerts, enabling dispatchers to make faster, better-informed decisions under pressure.
- Translated control-room requirements into technical designs, working with system architects and product managers on roadmap features and defect triage; built and productionized end-to-end automated testing.
- Integrated the platform with third-party APIs and government data sources for secure data exchange; authored automation scripts (log rotation, health checks, scheduled jobs) that reduced manual operations workload.
- Built a real-time log-monitoring dashboard that surfaces critical errors and exceptions as live alerts.

Senior Full-Stack Developer | SpaceToonGo , Dubai *Sep 2021 – Sep 2023*

- Contributed to re-architecting the kids' streaming platform's backend (v5) from a PHP monolith to GraphQL Federation microservices: Apollo Gateway composing 12+ NestJS/TypeScript subgraphs in an Nx monorepo, each owning its own database (Postgres/Prisma, MongoDB), with JWT verification and identity injection at the gateway.
- Scaled the read-heavy catalog API by serving the hottest endpoints (series details, episode lists) as pre-rendered static JSON, bypassing the framework and database entirely so the platform stayed stable under traffic spikes; reduced load times by 50%, contributing to a 10% increase in subscription revenue.
- Designed a sharded, denormalized entitlement cache so subscription checks on every video play skip the main subscription database; added per-country (MENA/GCC) geo-gating of content, pricing, and payment methods via Cloudflare edge headers.
- Integrated ~10 MENA payment providers (cards, cash codes, carrier billing, and Google/Apple/Huawei IAP with server-side receipt verification), with defense-in-depth webhooks (IP allowlisting + SHA-512 HMAC), reconciliation jobs that re-verify pending transactions, and async subscription updates via Google Pub/Sub.
- Implemented secure video delivery: per-request signed, expiring CDN URLs (Limelight/Edgio, CDN77, Wowza) with user-traceable tokens, so leaked stream links auto-expire and can be traced back to the account; also built secure video upload and an event-based analytics pipeline.

Full-Stack Developer | SDNone, Qatar *Sep 2020 – Aug 2021*

- Led the team building Elite Auction, a bilingual (Arabic/English) e-commerce and live-auction marketplace; designed a multi-guard architecture (customer/admin/vendor session guards + JWT API guard) so four surfaces (customer storefront, admin and vendor dashboards, mobile API) share one Laravel codebase and data model.
- Built the live auction engine: timed auctions, bid validation against the current highest bid, pseudonymous bidder handles for privacy, and a real-time polled leaderboard.
- Delivered a multi-vendor marketplace with admin-provisioned vendor accounts, shop-approval workflows, and vendor self-service product management; built and documented a 30+ endpoint mobile REST API secured with JWT, with per-request AR/EN language switching.
- Led sprint planning, code reviews, and mentoring; set review standards that cut defect rates in later releases.

Backend Engineer | Norrdex Travel Agency, Sweden *Jan 2017 – Aug 2020*

- Built and maintained the agency's production platform (Laravel/PHP, MySQL), moving flight-ticket inquiries, visa applications, and event bookings from phone/walk-in to online, plus an admin panel for non-technical staff.
- Designed, documented, and versioned internal REST APIs, reducing integration friction for downstream services and third-party partners.
- Ran production single-handedly: hosting, database provisioning, DNS, transactional email, and on-call support.

EDUCATION

BSc in Software Engineering — YPU University, 2014

LANGUAGES

Arabic (Native) | English (Fluent)