Mohamed Kamal Aldin

Senior Fullstack Engineer | Node.js / NestJS / TypeScript

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PROFESSIONAL SUMMARY

Senior Backend and Full-Stack Engineer with **5 years of software development experience**. Builds backend services with **Node.js, NestJS, and TypeScript**. Experienced in RESTful APIs, microservices, PostgreSQL, Redis, and background job processing. Delivers secure, scalable applications for fintech, logistics, SaaS, and e-commerce. Works with Docker, AWS, CI/CD, and automated testing.

CORE TECHNICAL STACK

- **Backend:** Node.js, NestJS, JavaScript, TypeScript, PHP (Laravel), Express.js, RESTful APIs, gRPC, Python.
- **Payments & Integrations:** MyFatoorah, Clickpay, Axis, Paymob, payment gateways, logistics APIs, third-party API integration.
- **Databases:** PostgreSQL, Redis, MySQL, MongoDB, Prisma ORM, SQL Server, TypeORM, Mongoose, query optimization, database indexing.
- **Architecture & Messaging:** Microservices, distributed systems, event-driven architecture, Clean Architecture, SOLID, RabbitMQ, BullMQ, message queues, background jobs.
- **Security:** JWT authentication, role-based access control (RBAC), multi-tenant isolation.
- **Cloud & DevOps:** Docker, AWS (S3, Lambda), Git, continuous integration and delivery (CI/CD).
- **Testing & Delivery:** PHPUnit, automated testing, code reviews, Agile/Scrum, technical ownership.
- **Frontend & Mobile:** Next.js, React.js, React Native, Vue.js, Inertia.js, Tailwind CSS.
- **AI Engineering:** AI agents, large language models (LLMs), retrieval-augmented generation (RAG), vector embeddings, semantic search, PostgreSQL/pgvector, tool calling, conversational memory.
- **AI & Tools:** OpenAI API, OpenRouter, Playwright, AI Coding Assistants (Cursor, Claude Code, Windsurf).

PROFESSIONAL EXPERIENCE

Full Stack Engineer **Mar. 2023 - Present**
Softoio *Cairo, Egypt*

- Build **enterprise resource planning (ERP), e-commerce, CRM, HRM, and warehouse management systems** with PHP/Laravel to support business operations and customer workflows.
- Integrate **MyFatoorah, Clickpay, Axis, and Paymob payment gateways** into business applications to support online payments and checkout workflows.
- Implement **logistics API integrations** that connect ordering and logistics systems with third-party services and automate data exchange.
- Develop frontend features with **React.js, Vue.js, and Next.js** and contribute to backend projects using **NestJS and TypeScript**.
- Develop and optimize **RESTful APIs** for application features and external integrations.
- Built **B2B platforms** and integrated **LLM-powered AI sales agents** into business products using **retrieval-augmented generation (RAG), vector embeddings, pgvector, and tool calling** for product discovery, personalized recommendations, and context-aware customer assistance.
- Integrate Meta APIs, WhatsApp, and AI services for customer communication, chatbots, sentiment analysis, and workflow automation.
- Deliver features across the **software development lifecycle**, from system design and API integration through deployment and performance optimization.

Software Developer **Feb. 2022 - Mar. 2023**
Penta Value *Cairo, Egypt*

- Built PHP/Laravel backend services and RESTful APIs using Clean Architecture and SOLID principles.
- Delivered e-commerce, social networking, and learning management systems (LMS) in Agile sprints.
- Added real-time data streaming and event-driven features for applications with multiple users.

SELECTED PROJECTS

- **LedgerFlow — Event-Driven Fintech Platform**
  Node.js, NestJS, TypeScript, PostgreSQL, Prisma, RabbitMQ, Redis, gRPC, Docker
  - Built an event-driven fintech backend for multi-currency transaction processing and payment settlement.
  - Implemented idempotent ledger updates to prevent duplicate financial entries when requests are repeated.
  - Used gRPC for service-to-service communication and RabbitMQ for asynchronous payment events.

- **Nexus Core — Distributed Workflow Engine**
  Node.js, NestJS, TypeScript, RabbitMQ, Redis, BullMQ, PostgreSQL, Docker
  - Built a distributed workflow engine that runs multi-step background processes and persists execution state.
  - Used Redis and BullMQ worker queues for concurrent job processing and fault-tolerant workflow execution.
  - Added AI-based structure validation before dispatching work to background processors.

- **Semsarco — AI-Driven Marketplace Discovery Platform**
  Laravel, MySQL, Vue 3, OpenRouter AI
  - Built an AI-powered marketplace discovery assistant that converts Egyptian Arabic requests into structured product search filters.
  - Built the backend with Laravel and MySQL and the interface with Vue 3; collected marketplace listings through persistent browser sessions and removed duplicate results.

- **Food Sawa — Multi-Tenant Restaurant SaaS Platform**
  Node.js, NestJS, TypeScript, PostgreSQL, Prisma, JWT, Docker
  - Built a multi-tenant restaurant SaaS backend to support independent restaurant accounts on a shared platform.
  - Separated tenant data into PostgreSQL schemas and enforced JWT authentication and role-based access control (RBAC).
  - Developed invoicing microservices to automate invoice generation for the SaaS platform.

EDUCATION

Bachelor of Laws, Faculty of Law, Banha University, Egypt **2016 - 2020**

CERTIFICATIONS

- **CS50's Web Programming with Python and JavaScript** | edX
- **Node JS Backend Diploma** | Route | June 2026
- **Software Engineer Certificate** | HackerRank
- **Certified English Speaker Level 8/8** | Berlitz Egypt
- **Certified Full-Stack Developer** | Mesmake

LANGUAGES

Arabic: Native | **English:** B2 (Professional Working Proficiency) | **German:** A1