

# Mohamed Elkholy

Full-Stack Engineer · Independent Contractor

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## SUMMARY

Full-stack engineer with over **8 years** delivering web applications for startups and SMBs, focused on performance, reliability, maintainability, and developer experience. Build scalable **TypeScript**, **Node.js**, and **React** solutions on **GCP** and **AWS**.

## EXPERIENCE

**Full-Stack Engineer**, Freelance · Remote

2014 – Present

- Delivered end-to-end web apps for startups and SMBs—from microsites/MVPs to large-scale applications.
- Designed serverless architectures on AWS, GCP, and Firebase for scalable, low-ops, cost-efficient delivery.
- Built React/Angular UIs and Node.js services; integrated third-party APIs, auth, payments, AI, and webhook flows.
- Provided technical consulting: architecture/code reviews, tool selection, performance audits, and workflow improvements.
- **2023** — Checkout workflow revamp on React/Node.js (GCP) with Stripe integration, increasing conversion by 12%.
- **2021** — Firebase/Cloud Functions; optimized indexes, caching, and queries, reducing cloud costs by 28%.
- **2020** — React/Next.js + Shopify (GraphQL API); delivered a storefront MVP in 6 weeks.

**Full-Stack Engineer (Node.js/TypeScript)**, Mishe · Contract · United States (Remote)

2024 – 2025

- Modernized a legacy Firebase codebase (web/Cloud Functions) to LTS, improving performance and release stability.
- Migrated the internal dashboard to MUI; built a reusable component library, improving UX and speeding feature delivery.
- Structured Firestore data with a schema analyzer and dashboard-driven migration runner, improving data integrity.
- Built Stripe operations dashboards with reconciliation and audit trails to reduce discrepancies and support compliance.
- Set up CI/CD with GitHub Actions + Cloud Pub/Sub: PR checks, preview deploys, and in-dashboard deployment logs.
- Improved quality and reliability with automated unit and E2E tests on PRs, structured logging, observability, caching and load testing, catching regressions earlier and keeping latency low.

**Full-Stack Engineer (Node.js/TypeScript)**, JOKR · Full-time · United States (Remote)

2021 – 2024

- Owned NestJS GraphQL microservices end-to-end, standardized schemas and versioned releases, reducing regressions.
- Built internal React/MUI dashboards and reusable component libraries, streamlining operations and speeding delivery.
- Integrated an ML-driven recommendations service using user signals, boosting product CTR/AOV, driving revenue growth.
- Improved performance with DataLoader caching and batching, efficient pagination, and media delivery optimizations; validated via targeted load testing to sustain thousands of requests/min at low p95 latency.
- Achieved 90%+ test coverage (Jest, Cypress); implemented Datadog observability and runbooks to reduce MTTR.
- Set up CI/CD with the DevOps team using GitHub Actions and Terraform: Docker/K8s/Helm deploys to staging/production.
- Adopted AI-assisted dev workflows for refactors, tests, and docs, speeding PRs and improving documentation coverage.

"Although he started as a freelancer, Mohamed integrated seamlessly with our team, delivered **full-stack features** end-to-end, worked proactively **across time zones**, and shipped **well-tested, reliable code** while supporting other engineers."

— **Ben Chen**, VP of Engineering, JOKR

## SKILLS

**Soft Skills & Practices:** Continuous learning, Problem-solving, Decision-making, Systems thinking, Communication, Organization, Code reviews, Test-driven development (TDD), Clean architecture, Documentation

**Tech stack:** Node.js, TypeScript, NestJS, Express.js, MongoDB, Redis, PostgreSQL, Apollo GraphQL, Google Cloud, Amazon AWS, Firebase, React, Angular, Vite, Material UI, RxJS, Stripe.js, Auth0, Vitest, Playwright, Docker, GitHub Actions

**Also used:** PHP, Python, Shopify, MySQL, Elasticsearch, JavaScript (ES6+), Gatsby, Next.js, Tailwind CSS, Redux, Vercel, Webpack, Jest, K6, Cypress, Kubernetes, Terraform

## EDUCATION

Formal degree with self-directed CS foundation and ongoing coursework

**Professional Development** · Selected Online Coursework 2015 – Present

AI Agents with MongoDB (2024) · Eloquent JavaScript (2024) · GraphQL Essentials (2020) · Advanced React (2018)

**HarvardX (edX) – Online program** · CS50x: Introduction to Computer Science 2016 – 2017

C · Python · SQL · Algorithms · Cryptography · Data Structures · Security

**Misr University for Science and Technology** · B.Sc. in Physical Therapy 2010 – 2016

## FEATURED PROJECT

### JOKR — Smart grocery shopping app powered by AI

- **Stack:** TypeScript/Node.js (NestJS), GraphQL (Apollo Federation), React/MUI, GCP, Docker/Kubernetes, Jest/Cypress.
- Delivered federated GraphQL microservices powering the iOS/Android app.
- Built internal operations dashboards and CI/CD pipelines.
- Integrated AI-driven product recommendations with guardrails.
- Case study: <https://mohatt.web.app/projects/jokr>