Mahmoud Mostafa Saber

Software Engineer

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Summary

Full-Stack AI Web Developer building web applications across the frontend and backend with **JavaScript, React.js, Angular, TypeScript, Node.js, Express.js, and REST APIs**. Developed projects in AI-powered platforms, healthcare, e-commerce, and finance, delivering **responsive interfaces, integrated AI workflows, backend services, authentication, background processing, and tested features**.

Education

B.Sc., Faculty of Computers and Information Technology, Sep 2021 – Jun 2025
The Egyptian E-Learning University (EELU).
GPA: 3.45/4.0
Graduation Project Grade: Excellent

Experience

Full Stack AI Web Developer, *Information Technology Institute (ITI)* Oct 2025 – Aug 2026
Smart village, Giza
Architected scalable, AI-powered web applications using React.js, Angular, TypeScript, and Node.js/Express. Built secure RESTful APIs integrated with LLMs, RAG pipelines, and vector search, decoupling heavy AI processing via BullMQ/Redis queues to reduce response latency by 35%. Optimized frontend state and load times using Redux Toolkit and lazy loading, while ensuring software quality through Jest unit tests and Agile sprint delivery.

Backend Developer, *Internship, Web Masters* Jul 2025 – Sep 2025
Developed secure RESTful backend services using Node.js, Express, and MongoDB; implemented Socket.IO for real-time bi-directional events, enforced JWT-based RBAC, and validated endpoints using Postman.

Full-Stack AI Code Reviewer, *Outlier (Freelance)* Nov 2024 – Jun 2025
Conducted in-depth technical evaluations of AI-generated full-stack applications, assessing code quality, architecture, logic, and performance across frontend and backend implementations, and providing actionable feedback to enhance software reliability and development standards.

Projects

Draya, *AI-Powered Learning Management System*
GitHub repo | *live demo*
- **Architected** an RTL-first platform using Angular, TypeScript, and ASP.NET Core REST APIs, utilizing MSSQL and **Redis caching** to eliminate database bottlenecks during **high-concurrency** exam sessions.
- **Orchestrated** an autonomous multi-agent **RAG pipeline** via **Semantic Kernel** and Azure OpenAI, automating curriculum parsing and rubric grading to **cut** educator **preparation time** by **~75%** while eliminating hallucinations through strict prompt guardrails.
- **Hardened** system security via **JWT-based RBAC**, payload sanitization, and **atomic database transactions** to protect student **PII** and prevent race conditions during simultaneous test submissions.
- **Automated** containerized **Docker** workflows and **GitHub Actions CI/CD pipelines**, verifying system stability with a **100% pass rate** (zero failures) across **407 unit tests** and **37 Playwright E2E suites**.

Naqla, *AI-Powered Recruitment Platform*
GitHub link | *live demo*
- Built a full-stack **AI recruitment platform** with an intuitive **React/Tailwind** dashboard and a **RAG pipeline (Pinecone & GenAI)** to parse resumes and semantically **rank** candidates using token-efficient **chunking**.
- Architected a decoupled, **event-driven** backend using Node.js, Redis, and BullMQ to offload heavy AI parsing with **automated retry mechanisms**, preventing event-loop **blocking** and sustaining **<200ms** API response times.
- Hardened security, testing, and delivery by enforcing **JWT**/**RBAC**, API **rate limiting**, and atomic operations, backed by more than **90%** Jest **test coverage** and automated **Docker & GitHub Actions CI/CD** deployment pipelines.

DiagnoTech, *Graduation Project*
GitHub repo | *live demo*
- Architected a decoupled **microservices platform** (React, Node.js/Express, MongoDB) and led a 7-member Agile team to deliver multi-role dashboards with **RBAC**/**JWT**, streamlining end-to-end patient triage and appointment booking.

- Engineered dual **AI pipelines**, improving diagnostic accuracy by **~20%** via a **tuned Random Forest microservice** and deploying an **Azure GPT-4o** assistant with bilingual prompt guardrails against hallucinations.
- **Automated CI/CD and cloud deployment** on Vercel with interactive Swagger API docs, implementing **Jest** test suites for critical auth and diagnostic endpoints to ensure sub-second response latency and high availability.

FinTracker, *Web Application*

Frontend repo, *backend repo* | *live demo*

- Built a scalable financial app using **Angular**, **NgRx**, **Node.js**, and **MongoDB** with **Stripe**; cut redundant API calls by **40%** via reactive caching and modern UX.
- Prevented duplicate transactions using **idempotent Stripe webhooks** and **MongoDB locks**; containerized with **Docker** and set up **CI/CD** with **80% test coverage**.
- Integrated an AI assistant using **RAG** for automated expense categorization and predictive budgeting, boosting classification accuracy by **35%**.

ShopWave, *E-Commerce*

GitHub repo | *live demo*

- Architected a responsive e-commerce SPA with **React 18** and **Tailwind CSS**, engineering an automated **guest-to-user cart sync** upon login.
- Streamlined data flow by decoupling global UI state from server-state caching (**TanStack Query**), eliminating redundant network calls.
- Integrated secure end-to-end **Stripe API** checkout and **JWT authentication**, backed by strict **Yup/Formik** validation and structured error handling.

Skills

Programming Languages: JavaScript (ES6+) | TypeScript | C++ | Python
Frontend Development: HTML5 | CSS3 | SASS/SCSS | Bootstrap | Tailwind | JQuery | MUI | React.js | Next.js | Angular | i18n | UI/UX Design principles
Backend Development: Node.js | Express.js | MongoDB | Mongoose | SQL | NestJS | GraphQL
State Management: Context API | Redux Toolkit | Zustand | TanStack Query | RxJS | NgRx
Tools & Technologies: Git | GitHub | Docker | Azure | AWS | GCP | Postman | Swagger | Jira | Figma
Concepts: Data Structures & Algorithms | OOP | SOLID Principles | Design Patterns | Agile | Scrum
Agentic AI & LLMs: LLM Integration | Fine-Tuning | RAG | LangChain | LangGraph | Multi-Agent Systems
Personal Skills: Team Collaboration | Problem Solving | Communication | Leadership
Testing: Unit Testing (Jasmine, Karma, Jest) | E2E Testing (Playwright) | API Testing | TDD

Certificates

Cisco Certified Network Associate (CCNA)
Cisco Networking Academy

Web Development Diploma
SEF

Languages

- **Arabic** (Mother Tongue)
- **English** (Professional Working Proficiency)