Alaa Erfan

Full Stack AI Engineer
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PROFESSIONAL SUMMARY

Full Stack AI Engineer with 2+ years of experience delivering production AI, backend, web, Oracle database, and automation systems. Owns features end to end, from data models, PL/SQL, and REST APIs to AI/OCR pipelines, full-stack interfaces, deployment, security, and production support. Strong in Python, FastAPI, Node.js, React, Next.js, Oracle SQL, PL/SQL, and Oracle APEX, with hands-on LLM integration, RAG, document intelligence, workflow automation, JWT security, and NGINX/OpenResty. Focused on replacing manual workflows with secure self-service, intelligent automation, and reliable production systems.

TECHNICAL SKILLS

AI and Automation: LLM Integration, RAG, Embeddings, Vector Databases, OCR, Document Intelligence, Computer Vision, NLP, AI Search, Candidate Matching, Prompt Engineering, n8n, TensorFlow, Hugging Face, Scikit-learn, OpenCV, YOLO, T5

Backend: Python, FastAPI, Flask, Node.js, Express, Fastify, REST APIs, Microservices, Async Processing, Background Workers, Cron Jobs, Multithreading, Middleware, File Uploads

Frontend: React, Next.js, Vite, JavaScript, HTML, CSS, Responsive UI, API-driven Applications, Deep Linking, In-app Navigation

Data and Enterprise: Oracle Database, SQL, PL/SQL, Oracle APEX, ORDS/REST, Database Design, Triggers, Sequences, Stored Procedures, Analytics, Data Pump, Schema Migration

Security and DevOps: JWT, API Authentication, CORS, SMS Verification, Paymob, Azure OCR/Vision, Docker, NGINX/OpenResty, Linux, Windows Server, Git, GitHub, Production Deployment

PROFESSIONAL EXPERIENCE

Full Stack AI Engineer
Dorra Group | Capital Business Park, Cairo, Egypt | Feb 2024 - Present

- Own end-to-end delivery of customer-facing and internal systems across AI services, mobile and web backends, Oracle databases, full-stack portals, workflow automation, security, deployment, and production support.
- Engineer Node.js and Python/FastAPI services, Oracle schemas and PL/SQL logic, React and Next.js applications, authentication flows, third-party integrations, background processing, and AI-powered business workflows.
- Deploy and operate services across NGINX/OpenResty, Windows Server, Linux, Node.js, Next.js, and Python environments, resolving routing, build, database, integration, performance, and production issues.
- **Dorra Community mobile app backend:** built the Node.js and Oracle backend for the resident mobile application, including REST APIs, JWT authentication, schema design, client and payment data, attachments, and secure enterprise integrations, enabling a reliable self-service layer between residents and core business systems.
- **AI document intelligence and family account verification:** developed FastAPI, OCR, and computer vision pipelines for Egyptian national IDs, birth certificates, and passports, automating document extraction and validation to reduce manual onboarding checks and support scalable family-account verification.
- **Dorra AI mobile chatbot:** built an in-app assistant that answers resident questions on compound information, project features, mobile app features, FAQs, and contact details, giving residents a single conversational entry point instead of searching across screens or calling support.
- **Dorra AI search:** built intent-aware search that converts natural-language requests into the correct app feature or deep link, improving feature discovery and reducing navigation friction across services, contact information, company content, and paid services.
- **Secure uploads and payment self-service:** designed and built a Next.js customer workflow for identity, residence, and payment document uploads using protected APIs and Oracle/APEX services, moving sensitive document exchange into an authenticated self-service process.
- **AI lead qualification, phone verification, and call booking:** built chatbot-driven lead workflows with SMS verification, automatic sales assignment, project and unit context, and preferred-call scheduling, improving lead validity and standardizing the handoff from digital channels to sales.
- **Generative vehicle artwork pipeline and worker automation:** built an AI vehicle-artwork service with a Python/FastAPI worker that processes newly inserted Oracle generation requests as asynchronous background tasks, replacing scheduled cron polling to optimize performance and deliver fast generation; added per-request status logging and failure handling, plus automatic background removal and cropping to produce clean, production-ready artwork without manual job handling.

- **Interactive real estate unit map:** developed a React-based interactive sales map from AutoCAD project plans with live availability, pricing, reservation status, and customer and booking context, streamlining unit selection and giving sales teams a single visual operational view.
- **AI HR screening workflow and admin portal:** built an n8n workflow to ingest CVs, extract candidate data and skills, compare profiles against job descriptions, and generate summaries and ratings, paired with a Next.js review portal to standardize and speed recruiter screening.
- **Dorra Talent Search:** built a Next.js recruiting portal that uses AI to discover matching candidate profiles across major job platforms in Egypt and draft personalized outreach, reducing manual sourcing effort and giving recruiters a repeatable search workflow.
- **Oracle APEX, analytics, and production delivery:** built APEX applications, admin workflows, SQL and PL/SQL automation, KPI reporting, and reverse-proxy and deployment configurations, improving operational visibility and supporting stable delivery across Oracle, Node.js, Next.js, Python, and NGINX/OpenResty.

Product Manager and Project Manager, AI Platform
ZayG | Remote, Part-time | Sep 2025 - Present

- Define product vision, roadmap, system flows, and delivery priorities for a multi-persona AI platform centered on a core assistant with user- and project-level context and memory isolation.
- Author PRDs covering AI memory, RAG pipelines, authentication, access control, data ownership, admin governance, and service orchestration, turning product requirements into implementation-ready technical scope.
- Coordinate AI, backend, frontend, mobile, and DevOps contributors across milestones, dependencies, scope trade-offs, budgets, and releases, improving cross-functional alignment and delivery clarity.
- Design the mobile application and website experience with the design team, translating product flows into screens, states, and navigation ready for development handoff.
- Developed and deployed the ZayG AI landing page (zaygai.com) in React.
- Developed a React admin portal used to control content, configuration, and operations across the mobile application, website, and landing page.

NLP Research and Development Intern
Smsm, Artificially Intelligent Agency | Egypt | Feb 2024 - Jun 2024

- Collected, cleaned, and prepared datasets for NLP experiments, fine-tuned translation and text-processing models, and evaluated language-model approaches for practical use cases.
- Compared model behavior and data-quality trade-offs to support more reliable NLP experimentation under real-world dataset constraints.

AI Engineer, Freelance
Various Clients | Remote | Project-based

- Designed custom AI solutions, translated client requirements into technical implementations, and delivered tailored model, automation, and integration work aligned with business needs.

SELECTED PROJECT

Rosheta, Medical Prescription OCR
Graduation Project, AI / NLP / Computer Vision | 2024

- Built a medical-prescription OCR system with three pipelines for preprocessing, English, and Arabic, using 8 or more models across classification, handwritten OCR, autocorrection, and spelling correction.
- Fine-tuned T5 for autocorrection, applied transfer learning to OCR models, and trained YOLO on custom data for line segmentation, creating an end-to-end research pipeline for difficult handwritten prescription text.
- Evaluated NLP spelling-correction algorithms under limited-data constraints, balancing model accuracy with practical dataset limitations.

EDUCATION

Bachelor of Computer Science and Information Systems (Double Major)
Helwan University | Cairo, Egypt | 2020 - 2024
Grade: Very Good with Honors

CERTIFICATIONS

IBM Artificial Intelligence Analyst, Mastery Award | Machine Learning Specialization, DeepLearning.AI | Deep Learning Specialization, DeepLearning.AI | Mathematics for Machine Learning and Data Science, DeepLearning.AI | Google Data Analytics Professional Certificate | Google Project Management Professional Certificate