Esam Mohammed Jaafar

AI Engineer | Full-Stack Developer | Mobile Developer

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PROFILE

AI Engineer focused on building practical, production-ready applications using computer vision, NLP, and deep learning. Specializes in creating real-time and bilingual (Arabic/English) AI systems, turning complex research into useful, full-stack solutions.

CORE AI COMPETENCIES:
Computer Vision, Deep Learning, LLM, NLP, MLOps, RAG, APIs, Real-time AI Inference

PROFESSIONAL EXPERIENCE

AI Engineer
SDAIA-KFUPM Joint Research Center for Artificial Intelligence (JRC-AI) ⊡

06/2024 – present
Dhahran, Saudi Arabia

- Developed and deployed real-time computer vision systems for automated defect detection using deep learning models.
- Built AI-powered chatbots and question-answering systems using Large Language Models and RAG architectures.
- Created backend platforms for AI model tracking, evaluation, and deployment using Python frameworks and containerization.

Full Stack AI Platform Developer
Etlaq ⊡

09/2025 – Present
Dhahran

- Developed AI-driven web platform (Next.js 15, React 19, PostgreSQL) with real-time streaming architecture and sandboxed code execution for automated application generation.
- Created feature-rich admin system with bilingual RTL support, payment processing, deployment automation, build tracking, and analytics integration.
- Engineered authentication system with multi-tier access, intelligent context management, comprehensive testing suite, and CI/CD pipelines

Full Stack AI Developer
THTC ⊡

08/2025 – Present
Al-Khabar

- Engineered full-stack AI platform for geospatial analytics using Next.js, FastAPI, LLM integration, and PostgreSQL/PostGIS with real-time visualization
- Implemented containerized microservices, bilingual UI, interactive map dashboards, and third-party API integrations across TypeScript/Python stack

KEY PROJECTS

Palette AI - AI-Powered Design System Generator
Production SaaS with Multi-Agent AI Architecture

11/2025 – Present

Full-stack SaaS platform with multi-agent AI architecture that generates accessible design systems (95+ WCAG scores). Features real-time streaming, bilingual support with RTL, visual editor, and. professional PDF exports.
Stack: Next.js 15, React 19, TypeScript, Tailwind CSS, OpenRouter API

AI-Powered Portfolio Assistant

05/2025 – present

- Developed sophisticated conversational AI system using Large Language Models and RAG archi-tecture.
- Implemented FAISS vector store with HuggingFace embeddings for contextual document retrieval.
- Created dynamic AI persona with context-aware responses based on technical documentation.

- Built natural language interface supporting complex queries about professional projects.

AI Theme Editor Pro - Intelligent Design System Tool   03/2025 – 07/2025
Full-Stack | React, Node.js, OpenAI API, Prisma, Tailwind CSS
- Developed a full-stack application that automates UI theme and brand identity creation using AI (OpenAI models via Groq/OpenRouter).
- Implemented AI-powered generation of comprehensive design tokens (colors, typography) and brand assets from user prompts or visual inputs.
- Integrated AI for real-time design previews and intelligent suggestion features.

SAMEA - Smart Sign Language Translator   07/2024 – 04/2025
Real-time Sign Language Recognition Mobile Application
- Android application in Kotlin using MediaPipe for hand gesture recognition and real-time sign language-to-text translation.

PV Panels - Solar Panel Defect Detection System   10/2024 – 06/2025
AI-Powered Solar Panel Inspection Platform Using Computer Vision and Deep Learning
- Full-stack web application using YOLOv7, Django/SQLite, and Tailwind CSS for real-time solar panel defect analysis.

Tafsir AI Chat System   09/2024 – 04/2025
Full Stack AI Developer | Django, OpenAI, TailwindCSS | SDAIA-KFUPM
- Dual-model AI chatbot (GPT-3.5 & GPT-4) in Django with Retrieval Augmented Generation for Quranic interpretation.

RefineAI - AI Model Evaluation Platform   10/2024 – 04/2025
Full Stack Developer | Django, TailwindCSS, Alpine.js | SDAIA-KFUPM
- Django-based platform with PostgreSQL and Tailwind CSS, featuring real-time analytics and Docker deployment.

Queen's Puzzle: Sudoku & Chess   11/2024 – 03/2025
Cross-platform Mobile Game for Strategic Thinking
- Developed a Flutter-based puzzle game with clean architecture and Provider state management
- Built a responsive, bilingual UI with modern design elements and animations
- Implemented core game features including progressive difficulty, achievements, and move validation
- Created persistent data system for user progress and integrated audio-haptic feedback

AqlPlay - Brain Training Gaming Platform ⧉   11/2024 – 03/2025
Interactive Puzzle Game Web Application
- Built a responsive gaming platform using React, featuring multiple puzzle games with progressive difficulty
- Implemented bilingual support with RTL capabilities using i18next and Tailwind CSS for styling
- Developed custom game logic with optimized state management and mobile-first interactions

Tailwind Customization tool   07/2024 – 02/2025
Tool for Developer to craft and design Tailwind based configurations..
- Created a web application that allows developers to visually craft and customize Tailwind CSS configurations.
- Integrated live previews, theme import/export capabilities, and pre-built themes, leveraging React and Node.js (Express).

FinTrack - Financial Management Platform   06/2024 – 11/2024
SMS-Integrated Banking & Expense Tracker
- Developed a cross-platform Flutter app with real-time bank synchronization, state management using Provider, and comprehensive financial analytics
- Built a Django REST backend with automated SMS bank transaction parsing and secure premium features
- Engineered a responsive bilingual (Arabic/English) web dashboard using Tailwind CSS and Alpine.js with offline-first capabilities

Multi-lingual Portfolio & Course Platform ⌗   08/2024 – 09/2024
Interactive Portfolio with Course Management System
- Built responsive portfolio platform using React, Next.js and Tailwind CSS
- Implemented bilingual system (English/Arabic) with RTL support and theme switching
- Developed interactive course management with secure document viewing
- Built modular architecture using React Context and custom hooks

TECHNICAL SKILLS

- **Languages:** Python, Flutter, JavaScript, Java, PHP, Kotlin
- **Frameworks/Libraries:** TensorFlow, PyTorch, React, Node.js, Django, Flask, FastAPI, Laravel, Tailwind CSS, Vite
- **Databases:** PostgreSQL, SQLite, MySQL, Firebase
- **UI/UX:** Figma, Canva
- **Tools:** Groq APIs, OpenRouter APIs, Git, Postman, Docker, Excel

EDUCATION

Bachelor of Science: Computer Science   08/2018 – 01/2024
KFUPM King Fahd University of Petroleum and Minerals ⌗   Dhahran, Saudi
                                                                Arabia

ACHIEVEMENTS & AWARDS

- Delivered multiple full-stack projects with React/Django and native mobile apps with Flutter.
- Recognized with the Mawhiba Excellence Medal for exceptional leadership and over 600 volunteer hours.

LANGUAGES

- Arabic   • English