

Ahmed Al-Yazouri

Fullstack AI Engineer · LLMs & RAG Systems · Data Science

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PROFESSIONAL SUMMARY

Fullstack AI Engineer with hands-on experience building end-to-end AI-powered systems — from LLM-based RAG pipelines and geospatial decision support platforms to full-stack web applications with React frontends and FastAPI backends. Specializes in Large Language Models, Retrieval-Augmented Generation, and production-ready data-driven systems. Passionate about designing tools that solve real-world problems and communicate complex AI concepts clearly.

WORK EXPERIENCE

Python Backend Developer · Freelance — Restaurant Management System

May 2026

- Built an end-to-end attendance and payroll system that ingests biometric attendance data from Excel exports.
- Developed a Python backend to process attendance logs and automatically compute work hours, overtime, lateness, and salary components.
- Implemented configurable payroll logic (salary rules, deductions, and bonuses) with employee-level reporting.
- Designed a modular and maintainable architecture with robust data validation, file handling, and automated report generation.

Tech Stack: Python, Pandas, OpenPyXL, Excel Data Processing, Payroll Automation, Data Analysis

Python Backend Developer · Freelance — Supermarket Management System

Mar 2024

- Built a full-stack supermarket platform covering product management, inventory, billing, invoice generation, and sales reports.
- Developed RESTful APIs with FastAPI and an interactive React frontend dashboard.
- Applied authentication, role-based access control, and modular clean architecture for scalability.
- Deployed and tested APIs using Postman; integrated frontend with backend endpoints end-to-end.

Stack: Python, FastAPI, React, SQL, REST APIs, JWT Authentication

PROJECTS

Moallime — AI-Powered Adaptive Learning Platform

Aug 2026

An intelligent learning platform that combines AI assistants, classroom integration, and structured course data to provide personalized academic support for students.

- Developed the platform's AI Chat Assistant, enabling students to interact with course content, ask questions, and receive context-aware responses.
- Built and integrated backend services connecting the AI assistant with the platform's classroom and course data.
- Implemented MCP (Model Context Protocol) tools to allow AI components to securely retrieve structured course, student, and classroom information.
- Worked on LangGraph-based AI workflows for managing AI interactions and coordinating tool-based reasoning.
- Designed and prepared the application's database structure and backend data layer for courses, users, classroom information, and learning-related data.
- Integrated AI services with the existing classroom system while maintaining separation between AI reasoning, application logic, and data access.

Stack: Python, FastAPI, PostgreSQL, LangGraph, LangChain, MCP (Model Context Protocol), LLMs, RAG, AI Agents, REST APIs, React

Teamoria — AI-Powered Project Management & Multi-Agent Platform

Jul 2026

An AI-powered project management platform that combines multi-agent orchestration, project analytics, RAG, and full-stack collaboration tools.

- Built a LangGraph-based Multi-Agent System where specialized AI agents collaborate over real project data.
- Developed a Supervisor Agent that analyzes user requests and routes them to the appropriate specialized agent.
- Implemented a Risk Agent to detect project risks and recommend mitigation actions.
- Developed a Delay Agent to analyze deadlines, task dependencies, and potential project delays.
- Built a Workload Agent to identify overloaded and underutilized team members and support workload balancing.
- Developed a Planning Agent that analyzes project documents and generates project plans with source references for traceability.
- Implemented an Approval Gate / Human-in-the-Loop workflow, ensuring critical AI-generated actions require project manager approval before modifying project data.

- Integrated AI agents with real project, task, team, and document data through controlled backend tools and APIs.
- Built full-stack project management functionality using FastAPI, React, and PostgreSQL for companies, teams, projects, tasks, meetings, and documents.
- Developed RAG-based project knowledge retrieval and AI-powered document and meeting analysis capabilities.

Live Platform: <https://teamoria.online/>

Stack: Python, FastAPI, React, PostgreSQL, LangGraph, LangChain, LLMs, RAG, AI Agents, Multi-Agent Systems, Human-in-the-Loop, REST APIs, Docker, Git, GitHub

AI Document Question Answering System (RAG)

Jul 2026

- Developed an AI-powered RAG system for document analysis and question answering.
- Built FastAPI backend services for document processing and semantic search.
- Implemented OCR-enabled pipelines for PDF, DOCX, Images, Excel, and CSV files.
- Integrated LangChain, OpenAI Embeddings, and Pinecone for AI-powered retrieval.
- Built a secure system using PostgreSQL, JWT authentication, and metadata management.

Live Demo: <https://rag-pdf-teaching-frontend-9ffw.onrender.com/>

Stack: Python, FastAPI, LangChain, OpenAI API, Pinecone, PostgreSQL, Tesseract OCR, Pillow, JWT, REST API, Vector Database, RAG, NLP

AI Research Assistant Agent — RAG System

Mar 2026

- Built PDF upload pipeline with context-aware question answering over large document collections.
- Implemented semantic search using FAISS and ChromaDB vector databases with LLM-grounded response generation.
- Designed scalable FastAPI backend with React frontend; deployed live with public demo.

Live Demo: ai-research-assistant-agent-1.onrender.com

Stack: Python, FastAPI, LangChain, OpenAI API, React, FAISS, ChromaDB, Docker

Gaza Strip Reconstruction Decision Support System (AI-DSS)

Jan 2026

An AI-enhanced geospatial platform for post-conflict reconstruction planning — combining satellite damage data, spatial analysis, and multi-criteria AI scoring to prioritize reconstruction zones across Gaza.

- Built a full pipeline: UNOSAT satellite damage ingestion → hexagonal zone analysis → AI priority scoring → automated project portfolio generation.
- Integrated infrastructure-aware prioritization covering hospitals, schools, roads, utilities, and municipal zones with network criticality scoring.
- Generated multi-format outputs: interactive HTML maps, 3D damage visualizations, Power BI dashboards, Excel portfolios, and DOCX reports.
- Produced academic research paper (PDF) and strategic presentation (PowerPoint) demonstrating knowledge transfer capability.

GitHub: github.com/AhmedAl-Yazuri/-Gaza-Strip-Reconstruction-Decision-Support-System

Stack: Python, GeoPandas, GIS, UNOSAT Satellite Data, Pandas, NumPy, Matplotlib

Retail Insights Data Warehouse

Aug 2024

A comprehensive retail analytics data warehouse with full ETL pipeline, star schema modeling, and interactive business intelligence dashboards.

- Designed ETL pipelines transforming raw CSV sales data (2015–2017) into a star schema PostgreSQL warehouse.
- Built an interactive Streamlit dashboard with 6 analytical views: KPIs, sales trends, top products, regional performance, and customer analytics.
- Produced storytelling analysis investigating a 2016–2017 sales decline with root cause analysis and actionable recommendations.

GitHub: github.com/AhmedAl-Yazuri/Retail-InsightsDataWarehouse

Stack: Python, PostgreSQL, Streamlit, Pandas, SQL, ETL Pipelines

Taxi Cancellation Prediction Model

2023

A machine learning classifier that predicts taxi ride cancellations using historical booking data — helping mobility platforms reduce revenue loss and improve driver allocation.

- Analyzed patterns across booking months, pickup locations, and travel behavior to flag high-risk cancellations in advance.
- Full pipeline: data preprocessing, missing value treatment, feature engineering, model training, and evaluation — achieved 94.2% accuracy.

Kaggle: kaggle.com/code/ahmedalyazuri/taxi-cancellation

Stack: Python, Pandas, Scikit-Learn, Machine Learning, Classification

IMDB Movies — Data Analysis & Machine Learning

Analyzed thousands of IMDB movies to uncover what drives ratings and box office revenue — from runtime and genre to release year trends.

- Key findings: longer movies tend to score higher ratings; peak box office revenue occurred in 2009–2012.
- Built a complete pipeline: EDA, feature engineering, correlation analysis, and predictive ML modeling.

Kaggle: kaggle.com/ahmedalyazuri

Stack: Python, Pandas, Scikit-Learn, Matplotlib, EDA, ML Modeling

SKILLS

Languages: Python, SQL, JavaScript

AI / ML: LLMs, RAG, AI Agents, Multi-Agent Systems, LangChain, LangGraph, MCP (Model Context Protocol), Prompt Engineering, NLP, Machine Learning, Deep Learning, Model Evaluation, Geospatial AI

Vector Databases & Retrieval: FAISS, ChromaDB, Pinecone, Vector Databases, Semantic Search

Backend: FastAPI, PostgreSQL, MySQL, REST APIs, JWT Authentication, API Integration

Frontend: React, JavaScript, HTML, CSS

Data & BI: Pandas, NumPy, Scikit-learn, Power BI, Streamlit, ETL Pipelines, Data Warehousing, Statistical Analysis

DevOps & Tools: Git, GitHub, Docker, Postman, Jupyter Notebook, Kaggle

EDUCATION

B.Sc. Data Science & Artificial Intelligence · University College of Applied Sciences (UCAS) | Gaza

CERTIFICATIONS

- Deep Dive LLM Bootcamp
- Machine Learning A-Z™: AI, Python & R — Udemy
- Deep Learning for NLP — Udemy
- Data Analysis using Python
- Python for Machine Learning (NumPy, Pandas, Matplotlib)

LANGUAGES

Arabic: Native | English: Professional Working Proficiency