

Yousef Malak Ibrahim Andraws

AI Engineer • Machine Learning Developer

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EDUCATION

Bachelor of Computer Science – Software Engineering

2023 – 2027

Ain Shams University (ASU) | GPA: 3.4 / 4.0 (Very Good)

WORK EXPERIENCE

AI Engineer – Wider (Multinational Company)

2025 – Present

- Built and deployed backend AI agent infrastructure handling production authentication flows
- Implemented Knowledge Graph systems with semantic metadata enrichment using LLM extraction pipelines
- Integrated LangChain-based agents communicating with graph services via REST APIs (POST/GET)
- Collaborated with cross-functional teams on multi-agent system architecture and deployment

AI CERTIFICATIONS & TRAINING

AI Agent Developer Course – Orange Digital Center

Feb 2026

Grade: 99.3% | Duration: 30 Hours

- AI Agents & LLMs, Prompt Engineering, LangChain Basics, Knowledge Integration (RAG, Vector Stores)
- Multi-Agent Systems, Deployment & Optimization, agent coordination and inter-agent communication

PROJECTS

Sadeed – AI Claim Management System | [GitHub Repository](#) Django · LangGraph · pgvector · Celery · Redis · Docker

- Built a multi-agent LangGraph pipeline (Extractor → Investigator → Resolver → Explainer) for automated claim triage and resolution
- Implemented semantic deduplication using pgvector HNSW indices with multilingual embeddings (Arabic + English) via paraphrase-multilingual-mpnet
- Designed smart LLM routing via OpenRouter, dynamically dispatching simple vs. complex claims to cost-appropriate models
- Built a fraud detection engine combining rule-based anomaly scoring with a Supabase fraud_patterns database for flagging bad actors
- Implemented an auto-retraining pipeline using Celery workers that feeds rejected decisions to a reflection model for dynamic prompt optimization
- Deployed multi-service architecture via Docker Compose with async task queues and K-Means clustering analytics endpoints

AI Travel Reservation Chatbot

n8n, API Integration

- Developed an automated chatbot integrating multiple flight and hotel reservation APIs for real-time booking
- Built workflow automation pipelines using n8n for API orchestration and conversational interactions

Online Exam Management System

Java, JavaFX, Maven

- Built a desktop application enabling admins to create/manage exams with automated grading
- Implemented user authentication, performance tracking, and file-based data persistence (OOP)

Land Type Classification – Satellite Imagery

Python, TensorFlow, Sentinel-2

- Compared ResNet50 (81.9%) and EfficientNetB0 (96.3%) on NWPU-RESISC45 dataset
- Achieved 96.3% accuracy with EfficientNetB0 for multi-class land cover detection

Forest Cover Type Prediction

XGBoost Classifier

- Multi-class classification achieving 86.6% accuracy; engineered interaction features for improved results

Walmart Sales Forecasting

LightGBM, Time Series

- Predicted weekly sales with MAE \approx \$7,277; applied rolling averages and TimeSeriesSplit cross-validation

Diabetes Prediction Model

Scikit-learn, SMOTE

- Applied SMOTE balancing; trained Logistic Regression, SVM, Random Forest (76% accuracy)

Image Segmentation App

C#, Windows Forms, DSU

- Graph-based segmentation with Gaussian smoothing, parallel RGB processing, and multi-format export

Mall Customer Segmentation

K-Means Clustering

- Segmented customers into 5 clusters via Elbow method; visualized spending vs. income patterns

SKILLS

AI & Agents	LangChain, LangGraph, Multi-Agent Systems, RAG, Prompt Engineering, Knowledge Graphs
Machine Learning	Scikit-learn, TensorFlow, PyTorch, XGBoost, LightGBM, SMOTE
Backend	Django, FastAPI, Scalable APIs, REST design, authentication flows, modular architecture
Data & Vector	pgvector, Qdrant, Supabase, PostgreSQL, Redis, Celery, Docker
Automation	n8n, API orchestration, chatbot pipelines, low-code workflows
Languages	Python, Java, C#, C++, JavaScript, SQL
Tools	Pandas, Jupyter, Streamlit, Seaborn, JavaFX, Pillow, Torchvision

LANGUAGES

Arabic (Native) • English (Fluent – written & spoken) • German (Good – written)

EXTRACURRICULAR ACTIVITIES

Head of AI – iCLUB (Student Club)

2024 – Present

- Led strategic AI initiatives; organized workshops on generative AI, model deployment, and ethics
- Mentored members in Python, TensorFlow, and cloud-based ML pipeline development
- Integrated AI solutions into club-led tech products and demos

References available upon request