Mohammad Talal

Egypt , Mansoura | engmohammadtalalai@gmail.com | +201098958271 | InstagramPage
GitHub: mohammadtalalai | LnikedIn: mohammad-talal-ai | Facebook Page

PROFESSIONAL SUMMARY

AI Engineer specializing in the design and development of production-ready AI applications and intelligent automation systems. Hands-on experience with Machine Learning, Deep Learning, LLMs, Generative AI, RAG, Computer Vision, NLP, and Speech AI, with strong expertise in Python, FastAPI, REST APIs, and LLM integration. Experienced in developing scalable AI architectures, secure backend services, local LLM solutions, and enterprise-focused applications from concept to deployment.

EDUCATION

Faculty of Engineering, Mansoura University

Artificial Intelligence Engineering Department | AIE, Major: Data Science & Machine Learning *2022 – Jan 2027*

***GPA**: 3.17 / 4.00 — Very Good*

EXPERIENCE

Part-time AI Engineer Jan 2026 – Present

MatgrSoft

- Develop and deploy AI-powered solutions for business process automation and software optimization.
- Design and integrate ML and LLM-based applications into existing software systems.
- Research and implement modern Generative AI technologies to enhance product capabilities.

Part-time AI Engineer & Instructor Oct 2025 – Present

IT Legend

- Develop AI/ML applications using LLMs, RAG, LangChain, FastAPI, and Python.
- Design AI-powered educational solutions and scalable backend services.
- Train and mentor students in AI, Machine Learning, Deep Learning, and Generative AI through practical projects.

Part-time AI Instructor Nov 2025 – Mar 2026

T-Square

- Delivered practical training in Artificial Intelligence, Machine Learning, and Advanced AI.
- Mentored students through hands-on projects and technical problem-solving.

Part-time Instructor Apr 2025 – Sep 2026

ST-Smart *Mansoura & Kafr Elsheikh*

- Deliver hands-on training in Python, AI, PCB Design, Arduino, and Robotics.
- Mentor students through engineering projects and robotics competitions.
- 2nd Place – STC Competition and Best Supervising Engineer Award.

Instructor 2023 – 2025

Mashael Academy

- Delivered programming and technology training for young learners.
- Designed project-based activities focused on programming, logical thinking, and problem-solving.

PROJECTS

QAVIA — Intelligent Document Extraction Engine

- Built an AI document extraction engine converting PDFs and images into validated structured JSON using Vision LLMs and OCR.

- Developed modular pipelines for classification, OCR, extraction, validation, confidence scoring, and enterprise REST APIs.
- Tech: Python, FastAPI, Qwen2.5-VL, Ollama, PaddleOCR, PyMuPDF, Pydantic, Computer Vision

JustTalk — Arabic AI Voice Ordering Platform

- Developed an Arabic voice ordering platform converting spoken customer requests into structured sales orders.
- Integrated speech recognition, LLM extraction, fuzzy product matching, pricing, validation, and Odoo-compatible PostgreSQL.
- Tech: Python, FastAPI, Faster-Whisper, Ollama, PostgreSQL, SQLAlchemy, RapidFuzz, Speech AI

YUMA — Enterprise AI Copilot for SAP Business One

- Built an AI assistant that converts natural language into secure SAP HANA SQL queries for conversational business analytics.
- Designed a microservices architecture with Text-to-SQL, speech recognition, SQL validation, authentication, and secure execution.
- Tech: Python, FastAPI, SAP HANA, PostgreSQL, Ollama, Qwen2.5-Coder, Faster-Whisper, Microservices

IT Legend — AI Tutor Platform

- Developed an AI programming tutor using RAG for context-aware assistance from PDFs and websites.
- Implemented code generation, debugging, explanation, persistent memory, vector search, and session management.
- Tech: Python, FastAPI, LLMs, RAG, LangChain, PostgreSQL, Vector Database

Talk2Data — Natural Language SQL Assistant

- Developed an Arabic/English AI assistant for converting natural language into validated PostgreSQL SQL queries.
- Implemented schema discovery, SQL security, conversational memory, caching, voice-to-SQL, and hybrid rule-based/LLM generation.
- Tech: Python, FastAPI, PostgreSQL, SQLAlchemy, Ollama, Qwen2.5-Coder, Faster-Whisper

ABCode — AI Programming Assistant for VS Code

- Developed a VS Code extension providing AI-powered code generation, debugging, explanation, refactoring, and optimization.
- Implemented intelligent error analysis, developer progress tracking, personalized insights, and local LLM inference.
- Tech: TypeScript, VS Code Extension API, Python, Ollama, LLMs, REST APIs

RAG Smart Contract Assistant

- Built an offline RAG platform for intelligent analysis of smart contracts and legal documents using semantic retrieval and grounded generation.
- Implemented semantic chunking, local embeddings, vector search, citations, and conversational memory.
- Tech: Python, LangChain, ChromaDB, Ollama, RAG, Embeddings, Vector Search, Gradio

UniSport Authentication & Authorization Backend — MNU

- Developed a secure FastAPI authentication backend using JWT, OAuth2, bcrypt, and Pydantic.
- Implemented protected REST APIs, token-based authorization, user management, and extensible RBAC architecture.
- Tech: FastAPI, Python, JWT, OAuth2, SQLite, Pydantic, Passlib, Python-JOSE

TECHNICAL SKILLS

AI & Machine Learning: Machine Learning, Deep Learning, LLMs, Generative AI, RAG, AI Agents, Agentic AI, NLP, Computer Vision, Speech AI, ASR, NL2SQL, Prompt Engineering
Programming & Backend: Python, SQL, FastAPI, Asynchronous Programming, REST APIs, Pydantic, API Design & Integration, JWT, OAuth2
Frontend & Development: Next.js, TypeScript, VS Code Extension API

AI Frameworks & Tools: Ollama, Hugging Face, LangChain, FAISS, ChromaDB, Faster-Whisper, PaddleOCR, Transformers, OpenRouter
Databases: PostgreSQL, SQLite, SAP HANA, SQLAlchemy
Data & Visualization: Data Analysis, Microsoft Power BI, Microsoft Excel
Development & DevOps: Git, GitHub, Uvicorn, Environment Configuration, Logging & Monitoring
Soft Skills: Problem Solving, Analytical Thinking, System Design, Teamwork, Leadership, Communication, Public Speaking, Time Management, Adaptability

CERTIFICATIONS

Machine Learning Specialization — DeepLearning.AI & Stanford University
Deep Learning Specialization — DeepLearning.AI
Machine Learning with Python — IBM
Computer Vision Specialization
Natural Language Processing (NLP) Specialization
Generative AI with LangChain — ITI & NVIDIA
Building RAG Agents with LLMs — ITI & NVIDIA
Deep Learning Hyperparameter Tuning — DeepLearning.AI
Artificial Intelligence Program — Arab Organization for Industrialization (AOI)
Deep Learning Program — MaharaTech
Robotics Certificate — ST Smart
2nd Place – STC Competition
Best Supervising Engineer Award
Speaker – The First AI Summit, Faculty of Engineering, Mansoura University
Keynote Speaker – Scientific Day, Artificial Intelligence Engineering Department, MNU
AI Instructor – LEAP 2.0 Workshop

LANGUAGES

Arabic: Native
English: B1