

ALI ATWI

AI Engineer — LLMs & Agentic Systems

Nabatiyeh, Lebanon | +961 71 662 875 | aliatwi072@gmail.com | [LinkedIn](#) | [GitHub](#)

PROFILE

AI Engineer with a Master's in Advanced Artificial Intelligence and Generative Systems and hands-on research and project experience in Large Language Models, retrieval-augmented generation (RAG), and multi-agent orchestration. Skilled in building agentic systems with LangChain and LangGraph that integrate the Model Context Protocol (MCP) for reliable tool use and context management, and in designing RAG pipelines with vector databases. Seeking an AI Engineer role focused on designing, developing production-grade LLM applications and autonomous agent systems.

EXPERIENCE

Research Intern — Master's Thesis

Mar 2025 – Sep 2025

Lebanese University, in collaboration with Dr. Hanane Kteich, LISN, Université Paris-Saclay

Improving Medical Question Answering Through Biomedical Integration:

- Developed a knowledge-augmented medical question-answering pipeline that injects structured biomedical knowledge (UMLS, PubMed) into LLM prompts without fine-tuning.
- Implemented embedding-based retrieval and semantic ranking using Bio_ClinicalBERT to reduce hallucinations and improve clinical reasoning on the MEDQA benchmark.
- Achieved notable accuracy and F1-score improvements over baseline prompting and prior methods, demonstrating a scalable and resource-efficient approach to medical AI.

Coding Instructor — BrightChamps

2021 – 2022

- Taught programming to students aged 5–18 across multiple platforms and languages.
- Monitored and assessed individual student progress, adapting instruction to varied skill levels.

PROJECTS

NL2SQL E-Commerce Assistant | LangGraph, LangChain, OpenAI, Anthropic Claude, Streamlit, FastAPI, Docker, SQLite, Plotly

- Built a multi-agent AI system that converts natural language questions into executable SQL queries, enabling non-technical users to query relational databases without any SQL knowledge.
- Designed a LangGraph-orchestrated pipeline with dedicated agents for scope validation, SQL generation, self-healing error correction (up to 3 automated retries), insight interpretation, and intelligent chart generation using Plotly
- Integrated OpenAI GPT for query generation and routing decisions, and Anthropic Claude for natural language insight generation and SQL error correction
- Deployed as a containerized microservices architecture using Docker Compose, with a FastAPI backend and Streamlit conversational UI, applied to the Olist Brazilian E-Commerce dataset of 100k+ real-world orders.

Adaptive RAG Agent with Self-Correcting Retrieval | LangGraph, LangChain, Claude, OpenAI Embedding, FAISS, Tavily Search

- Developed an adaptive RAG agent that intelligently selects between vector database retrieval and live web search using LLM-based query routing to maximize response accuracy.
- Engineered a multi-stage LangGraph workflow incorporating retrieval grading, automatic query rewriting, answer generation, hallucination detection, and answer validation through structured LLM evaluators.
- Implemented a self-correcting retrieval loop that retries retrieval with rewritten queries when relevant context is insufficient and regenerates responses until they are both grounded in retrieved evidence and answer the user's question
- Built a semantic search pipeline with OpenAI embeddings and FAISS, integrating Tavily web search for external knowledge and Anthropic Claude for reasoning, structured outputs, and evaluation tasks

EDUCATION

Master's in Advanced Artificial Intelligence and Generative Systems

2023 – 2025

Lebanese University, Lebanon

- Thesis: Exploring Language Models for Medical Analysis

Bachelor's in Computer Science

2020 – 2023

Lebanese University, Lebanon

TECHNICAL SKILLS

Programming Languages: Python, Java, JavaScript, SQL

LLM & Agent Frameworks: LangChain, LangGraph

Protocols & Architectures: Model Context Protocol (MCP), Retrieval-Augmented Generation (RAG), prompt engineering

Vector Databases: Pinecone, Chroma DB, FAISS

Tools & Platforms: Git/GitHub, Docker, SQLite, FastAPI, Streamlit, Plotly

LLM Providers: OpenAI, Anthropic, Hugging Face, Google Gemini

CERTIFICATES

- [Foundation: Introduction to LangGraph – Python](#)
- [Foundation: Introduction to LangChain – Python](#)
- [Machine Learning A-Z: AI, Python & R + ChatGPT Prize](#)

Languages: English (Fluent) Arabic (Native)