Carl Amine

Beirut, Lebanon — caa44@mail.aub.edu — +961 71 145 741 — github.com/CarlAmine

Professional Summary

Electrical and Computer Engineering student graduating June 2026 with hands-on experience building multi-stage AI pipelines, LLM integrations, and API-driven automation systems. Comfortable with Python backend development, retrieval workflows, system design, and containerized deployment. Seeking AI Engineer, Applied AI, or LLM Engineering roles focused on robust real-world AI applications.

Technical Skills

Languages:	Python, TypeScript, JavaScript
LLM / Applied AI:	OpenAI API, LangChain, prompt engineering, structured outputs, RAGAS
Retrieval / RAG:	Qdrant, FAISS, multimodal retrieval, layout-aware ingestion
Backend / APIs:	FastAPI, REST APIs, Pydantic, typed schemas
Infra / Tools:	Docker, Docker Compose, Linux, Git, Streamlit, React/Vite

Professional Experience

AI Development Intern Jun 2025 – Aug 2025

Atria Solutions

- Built an AI agent pipeline for SIP telephony automation, integrating an LLM with external communication APIs for structured decision flows.
- Defined custom tool schemas for querying internal data sources and routing calls based on model outputs.

Undergraduate Research Assistant Fall 2024

American University of Beirut

- Optimized matrix multiplication kernels for hardware-constrained AI training workloads.
- Implemented branch prediction models using pattern-recognition techniques for microarchitecture simulation.

AI Program Volunteer Jul 2024

AIcademy, American University of Beirut

- Mentored students in building API-integrated Python applications with structured code design.

Selected Projects

AI Video Editing Pipeline `github.com/CarlAmine/AI_Editor`

Python, TypeScript, FastAPI, React/Vite, OpenAI, Shotstack

- Designed a resumable video pipeline with 11 typed stages spanning ingestion, analysis, rendering, and publishing, tracked through a typed state machine with per-stage error accumulation.
- Integrated Shotstack, Google Drive, YouTube Data API, and OpenAI GPT-4o for scene analysis, rendering, storage, and publishing.
- Implemented idempotency guards, retry logic, and validation for scene-based and OCR-based timeline construction.

NourishAI `github.com/CarlAmine/NourishAI`

Python, FastAPI, FAISS, OpenAI, Streamlit, Docker

- Built and verified a FAISS-based retrieval pipeline with metadata-aware filtering, lightweight reranking, and diagnostics for recipe search.
- Implemented schema-validated recommendation, meal-planning, and nutrition-QA endpoints with source-linked outputs and safe fallback behavior.
- Added deterministic evaluation runners and automated tests covering retrieval quality, grounding correctness, and failure-path behavior.

Multimodal RAG Pipeline `github.com/CarlAmine/Multimodal-RAG`

Python, LangChain, Qdrant, OpenAI, RAGAS, Docker

- Built a layout-aware PDF ingestion pipeline with separate processing for prose, tables, and figures.
- Implemented multimodal retrieval with GPT-4o-mini visual summaries, Qdrant storage, and RAGAS-based evaluation against text-only retrieval.

Education

Bachelor of Engineering in Electrical and Computer Engineering

American University of Beirut (AUB), Lebanon 2022 – June 2026

Minor in Mathematics — Relevant coursework: Algorithms, Stochastic Processes, Machine Learning

Certifications

Google Cloud Generative AI — IBM Neural Networks with PyTorch — Stanford Supervised Machine Learning