

MUHANAD TELLO

AI Engineer | Generative AI & RAG

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PROFESSIONAL SUMMARY

AI Engineer specializing in Generative AI and Retrieval-Augmented Generation (RAG), with a 10+ year foundation in production systems, root-cause analysis, and API troubleshooting from an enterprise IT career. Through Ironhack's AI Engineering Bootcamp and independent development of Mnemova, an AI-assisted learning platform, I've built and shipped LLM applications including a multimodal RAG chatbot (Python, LangChain, LangGraph, ChromaDB) and AI-powered exercise generation for a live product. My background gives me hands-on experience with LLM integration, agentic workflows, prompt engineering, and hallucination mitigation, combined with the operational discipline of debugging and maintaining production systems at enterprise scale. Looking to bring this blend of AI engineering skill and systems reliability to build and ship production-grade generative AI products internationally.

TECHNICAL SKILLS

Languages & Core: Python, SQL, JavaScript, TypeScript

AI / ML: Generative AI, Large Language Models (LLMs), LLM Applications & Integration, Retrieval-Augmented Generation (RAG), AI Agents & Agentic Workflows, LangChain, LangGraph, OpenAI API, Anthropic API, Hugging Face Transformers, PyTorch, Prompt Engineering, Model Evaluation, Hallucination Mitigation, Fine-Tuning Fundamentals

Vector Databases & Data: ChromaDB, Vector Search & Embeddings, Semantic Search, Chunking & Retrieval Pipelines, Grounding, Sentence-Transformers, Data Pipelines

Web & API: FastAPI, REST API Integration & Troubleshooting, React, Node.js, Next.js, Supabase

Systems & Tools: Git/GitHub, Linux, Automation Scripting, System Optimization, Docker (familiar), ITIL Framework, Windows & Office 365 Administration

Professional: Root-Cause Analysis, Technical Documentation, Cross-Functional Communication (English/German)

FEATURED AI PROJECTS

streamTube — Multimodal RAG Video Assistant

2026

Python, FastAPI, LangChain, LangGraph, ChromaDB, faster-whisper, React/TypeScript | github.com/Multimodal-AI-Assistant/streamTube

- Built an end-to-end multimodal RAG chatbot that answers natural-language questions about any YouTube video by combining timestamped audio transcription with vision-based frame captioning and OCR.
- Designed a LangGraph/LangChain agent that retrieves from merged transcript and frame vector indexes (ChromaDB) and grounds every answer with clickable timestamp citations, explicitly returning "not covered" instead of a hallucinated answer when information is missing.
- Implemented streaming responses over Server-Sent Events with live pipeline status updates, backed by a FastAPI service and a React 19/TypeScript frontend with click-to-seek video playback.
- Integrated OpenAI and Anthropic LLM APIs with local sentence-transformer embeddings and an automated ingestion pipeline (yt-dlp, ffmpeg, scene detection, faster-whisper) for video download, transcription, and indexing.

Mnemova (Cerevia) — AI-Assisted Spaced Repetition Learning Platform

Aug 2025 – Present

Founder & Developer | TypeScript, Next.js, Supabase, AI content generation | mnemova.com

- Building a live, production learning app that converts raw notes into flashcards, fill-in-the-blank, multiple-choice, and word-pick exercises, using both deterministic rule-based generation and an AI layer for richer, automatically generated exercises from unstructured text.
- Implemented the core SM-2 spaced-repetition scheduling engine — adaptive review intervals, dual-pool session queuing, and streak-based interval growth — to personalize each user's review schedule.
- Architected an offline-first data layer with bidirectional Supabase sync (last-write-wins merge, guest-to-account data migration, row-level security), supporting both anonymous and authenticated users across web and mobile.
- Currently extending the platform's AI generation capabilities and preparing a freemium subscription model ahead of commercial launch.

PROFESSIONAL EXPERIENCE

Founder & Developer — Mnemova (AI-Assisted Learning Platform)

Aug 2025 – Present

Potsdam, Germany (Remote) | full technical breakdown under Featured AI Projects

- Designed and built a live spaced-repetition learning platform combining a deterministic SM-2 scheduling engine with an AI layer that generates study exercises from raw notes.
- Extended into Ironhack's AI Engineering Bootcamp (Jun 2026) to formalize and deepen the LLM engineering skills applied on this project, and to build additional production-style AI systems (see streamTube).

Infosys Germany — IT Technical Support

Apr 2022 – Aug 2025

Düsseldorf, Germany

- Applied systematic root-cause analysis to diagnose and resolve complex hardware, software, and network issues across Windows and Office 365 environments — the same debugging discipline now applied to tracing failures in AI/LLM pipelines and production systems.
- Troubleshoot API and system-integration failures between internal tools and third-party services within ITIL-aligned incident management — directly transferable to integrating and maintaining LLM APIs in production AI systems.
- Built and maintained automation scripts to streamline repetitive support workflows and cut manual ticket-handling time, reflecting the automation mindset central to AI pipeline and MLOps engineering.
- Delivered technical support and training in English and German, translating complex technical issues into clear guidance for non-technical stakeholders — a skill directly relevant to communicating AI system capabilities and limitations to cross-functional teams.

Charamel GmbH — Software Developer Intern

Nov 2018 – Apr 2020

Cologne, Germany

- Planned and developed a system overview dashboard for animation and script processes using React.js, SVG, and Redux.
- Built and ran automated Node.js test suites to validate web services across multiple environments.

HAMIAM e.V. (Volunteer) — IT Technical Support

Sep 2016 – Feb 2017

Cologne, Germany

- Managed network security configuration and monitoring for the organization's IT infrastructure.
- Configured and maintained automated backup systems and cloud storage access controls for staff and volunteers.

Earlier Experience — IT Support & Systems Administration

2004 – 2014

TASDID (Assistant IT Manager) · ESYRIA.SY · ALL-NASSIER · SYSTEM 7 — Damascus, Syria

- Administered Active Directory, ISA Server, and firewall configurations, managing user access, group policy objects (GPOs), and network security policy across multiple organizations.
- Maintained web server infrastructure and access controls, and designed inter-company network connections and basic network support systems.
- Delivered hardware maintenance, software support, and system upgrades for customer PCs.

EDUCATION

AI Engineering Bootcamp — Ironhack

Jun 2026 – Present

- Intensive, project-based program covering Python for AI/ML, LLM application development, RAG architectures, vector databases, model evaluation, and agentic workflows.
- Capstone: streamTube — multimodal RAG video assistant (see Featured AI Projects).

Diploma, Software Development — BM-Academy “School of Games”

Sep 2017 – Jan 2021

Cologne, Germany | Dual vocational training; IHK (Chamber of Industry and Commerce) certified

B.A., Translation (English–Arabic) — Damascus University

Sep 2010 – May 2015

Damascus, Syria

LANGUAGES

Arabic: Native | English: Fluent | German: Proficient