RAYÂN MOUAHID

Computer Engineering Student — CyTech

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PROFESSIONAL SUMMARY

Computer engineering student at CyTech with hands-on experience designing self-hosted AI systems, including a Retrieval-Augmented Generation (RAG) agent and a custom vector search engine built from scratch in Python. Completed an infrastructure internship deploying open-source AI tooling in production. Seeking a 6-month Machine Learning / AI Engineering internship starting March 2027. Fluent in English (C2) and Spanish (B2).

PROFESSIONAL EXPERIENCE

Infrastructure Intern — SYSETELE *Jul 2025 – Aug 2025*

- Designed and deployed a self-hosted Retrieval-Augmented Generation (RAG) AI agent within the infrastructure team, using exclusively open-source components.
- Packaged the agent for flexible deployment, running identically in a containerized environment (Docker) or directly on bare-metal servers.
- Evaluated and integrated open-source LLM and retrieval tooling to meet the constraint of zero cloud dependency.

Section Leader — Military Leadership Training — Military High School of Aix-en-Provence*Aug 2022*

- Commanded and coordinated a group of 70 trainees during an intensive military training program, overseeing daily logistics, discipline, and team performance.

TECHNICAL PROJECTS

Self-Hosted RAG Agent & Vector Search Engine — Personal Project · github.com/rmouahid/rag-agent

- Built a Retrieval-Augmented Generation pipeline from scratch in Python, without relying on frameworks such as LangChain, LlamaIndex, or FAISS.
- Implemented a custom semantic chunking algorithm with fine-grained token counting, and a cosine-similarity vector search engine (NumPy) featuring an IVF-lite clustering index alongside brute-force search.
- Designed to run entirely locally on CPU with no cloud dependency; integrated a local LLM via llama-cpp-python and exposed the agent through a FastAPI service, packaged with Docker Compose.

Stack: Python, NumPy, sentence-transformers, llama-cpp-python, FastAPI, Docker Compose

Real-Time Streaming Graph Platform — Personal Project · github.com/rmouahid/pyspark-streaming-graph-platform

- Built a real-time streaming pipeline with PySpark Structured Streaming and GraphFrames simulating buyer–seller–product interactions on a marketplace, with dynamic graph visualization.

Stack: PySpark, GraphFrames, Faker, Streamlit, PyVis

NovIT — MCP Server for Technical Watch — Personal Project · github.com/rmouahid/NovIT

- Built a Model Context Protocol (MCP) server giving Claude real-time access to curated technology, AI, security, and regulatory news sources — bridging an LLM's knowledge cutoff with live information.
- Designed a plugin-based scraper architecture (Hacker News, arXiv, GitHub Trending, CVE/NVD) with profile-based filtering, and exposed six MCP tools (search, digest, related-article discovery) directly usable from Claude Desktop.

Stack: Python, MCP SDK, web scraping, YAML-based configuration

EDUCATION

Engineering Degree, Information Systems Engineering *2024 – Present*
CyTech (formerly EISTI), Cergy, France

Preparatory Classes (CPES, then MPSI–MP) *2020 – 2023*
Military High School of Aix-en-Provence, France

Preparatory Class (MP) *2023 – 2024*
Albert Châtelet High School, Douai, France

Scientific Baccalaureate — Mathematics specialization, with honors *June 2020*
Martin Luther King High School, France

ADDITIONAL EXPERIENCE

Athletics Coach — BSGA, young athletes training (2018–2019) · **Crew Member** — McDonald's (2021) · **Order Picker** — Neolog & PSG (2023)

SKILLS

Programming Languages: Python, Java, JavaScript, SQL, C, HTML/CSS
AI / Data: NumPy, sentence-transformers, llama-cpp-python, PySpark, GraphFrames
Backend & Infrastructure: FastAPI, Docker / Docker Compose, Node.js/Express, React
Tools: Git/GitHub, Maven
Languages: French (Native) · English (C2 – Full Professional Proficiency) · Spanish (B2 – Upper Intermediate)