Samir MAHAMAT SALEH

AI Engineer · GenAI, RAG & LLM Agents
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Profile

MSc-level graduate in Artificial Intelligence and Data Science (French RNCP Level 7, EQF 7). Two years as an apprentice at the French Civil Aviation Authority, shipping GenAI applications to real business teams in a sensitive, heavily regulated environment. I also design **RAG pipelines**, agents and LLM evaluation protocols, with constant attention to hallucinations, security and the EU AI Act.

Certification and Publication

Microsoft Certified : Azure AI Apps and Agents Developer Associate - July 2026, ID 3F9FED23D318BD9C : AI apps and agents on Azure AI Foundry / Azure OpenAI, RAG, orchestration, evaluation.
Publication - *VCBench* (SSRN, 2026) : calibration and failure modes of local LLMs for rare-event prediction. ssrn.com/abstract=6832218

Technical Skills

GenAI and LLMs : RAG (dense and hybrid), embeddings, chunking, vector stores (FAISS, Azure AI Search), prompt engineering, structured JSON outputs, agents and orchestration, response evaluation
Frameworks and models : LangChain, Azure OpenAI, OpenAI API, Mistral, Anthropic, Ollama / open-weight models (Qwen), Hugging Face, LoRA/PEFT
Backend, frontend and data : Python, FastAPI, Flask, Streamlit, Gradio, REST APIs, JSON, TypeScript/React (Vite), SQL, Pandas, NumPy, scikit-learn, DuckDB, testing and logging
Cloud, DevOps and compliance : Azure, Docker, Git/GitHub, CI/CD (GitHub Actions, Azure DevOps), MCP, Langfuse, RAGAS, AI-assisted development (Copilot, Cursor, Claude Code), GDPR, EU AI Act

Professional Experience

Data Science Officer - DGAC / DSAC Oct. 2024 - Sept. 2026
French Civil Aviation Authority, Safety Directorate *Paris, France*

- Designed an AI solution for aviation safety occurrence reporting : LLM extraction turning free-text reports into **48 structured JSON fields**, with cleaning, integrity validation and automated consistency checks.
- Automated the pre-filling of regulatory PDF forms, cutting the handling time of a report from **over 30 minutes to around 5 minutes**, more than 80% saved.
- Built the full Python chain : LLM extraction, JSON validation, form generation, FastAPI backend with several REST endpoints and a business-facing web interface.
- Evaluated the solution on **around 100 real occurrences**, then rolled it out to 5 business users with feedback, fixes and documentation.

Python Developer Intern - UBA Chad June 2023 - Aug. 2023
United Bank for Africa - multi-branch banking data *Chad*

- Built a PyQt5 application to import, clean and consolidate Excel files from multiple bank branches, with Python/Pandas automation.

Junior Data Analyst - AI Fashion & Bunqr Sept. 2021 - Aug. 2022
Startup projects and internship, Aivancity AI Clinic *Remote*

- AI Fashion : e-commerce web data collection, dataset structuring and product benchmarking. Bunqr : accounting automation through OCR invoice reading and document classification.

AI Projects and Research

Final-year project - QA benchmark on aviation regulation | *RAG, FAISS, LLMs, LoRA/PEFT* 2025 - 2026

- RAG pipeline and question-answering benchmark on EU Regulation 376/2014 and EASA rules : XML/PDF parsing, 133 chunks, FAISS index, 300 reference questions, protocol comparing few-shot, RAG and light fine-tuning with citation-faithfulness measurement.

AI Act Evidence Desk - agentic RAG for compliance | *hybrid RAG, agents, MCP, RAGAS, OpenAI/Mistral* 2026

- Agent turning an AI use case into a source-grounded EU AI Act evidence map : parent-child chunking, hybrid BM25/TF-IDF retrieval with rank fusion, three-pass synthesis with self-consistency and critique.
- Production concerns : MCP server, Langfuse tracing, measured RAGAS evaluation, security tests across five prompt-injection scenarios. github.com/MoSaleh47/AI-Act-Evidence-Desk

Education

Aivancity School for Technology, Business and Society 2021 - 2026
Graduate degree in Artificial Intelligence and Data Science (RNCP Level 7 / EQF 7) *Paris, France*

Languages and Soft Skills

Languages : French (fluent, professional), English (C1)
Soft skills : explaining technical work to non-technical teams, autonomy, rigour, cross-functional collaboration, documentation