



EL HADRATI OTHMAN

DATA AND SOFTWARE ENGINEERING STUDENT

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SUMMARY

I am a second-year Data Engineering student at the National School of Applied Sciences in Al Hoceima (ENSAH). I'm passionate about data engineering, computer science and excited to apply my skills and knowledge to create innovative solutions.

EXPERIENCES

AI DEVELOPER — SSIS TO DATABRICKS MIGRATION AGENT — SHIFTBRIKS

2025/07/01 – 2025/09/31

- Developed an AI-driven multi-agent system for automating SSIS-to-Databricks migration, implementing a Multi-Layered Analysis Pipeline to parse SSIS files, extract transformations, dependencies, and data lineages, and validate data type compatibility — reducing manual effort, errors, and overall migration time.
- Built a Migration Agentic System using CrewAI to coordinate multiple agents (Manager, Analyst, Planner, Coder, Validator, RAG), automatically generating production-ready Databricks notebooks, providing clear migration reports, and guiding a step-by-step workflow for full ETL migration.
- Tools & Technologies:** Databricks, SSIS, SQL Server, Memgraph, CrewAI, Docker

TEAM LEAD AI DEVELOPER — SOVEREIGN AI GATEWAY FOR MOROCCO — XAI

2025/08/01 – 2025/09/31

- Led the development of a Moroccan alternative to OpenRouter, building an LLM API gateway with FastAPI for model serving, intelligent routing, and secure authentication/authorization — ensuring data sovereignty, privacy, and support for Arabic/Moroccan use cases.
- Directed full-stack development stack for dashboard/playground/chat, containerized LLMs with Ollama, and integrated both open-source and API-based models, delivering a sovereign SaaS platform that reduces foreign dependency and fosters local AI innovation.
- Tools & Technologies:** Next.js, Supabase, Docker, FastAPI, Grafana, Prometheus, Caddy, Prisma

PROJECTS

AI-POWERED PORTFOLIO CHATBOT

AGENTIC AI

- Developed a chatbot API to enhance portfolio interactions through a hierarchical multi-agent system, including agents for retrieving GitHub repositories, providing project insights, managing user interactions, and sending emails. and memory handling is enabled via Mem0 AI for context-aware conversations.
- Tools:** FastAPI, CrewAI, Mem0 AI, Google Gemini API, AgentOps, Gmail SMTP (including session management, CORS protection, and real-time monitoring).

AI CHATBOT FOR SMART CITY ASSISTANCE – AL HOCEIMA

AGENTIC AI

- Developed an AI-powered chatbot for Al Hoceima that provides real-time information on tourist attractions, coffee shops, weather updates, and duty pharmacy schedules. The chatbot can suggest locations with images or interactive map views, and can also identify a place and provide related information when the user submits an image of it.
- Tools:** FastAPI, LlamaIndex, LangChain, Qdrant, Pandas Query Engine, MySQL, LangTrace, Web Scraping (including map rendering, image analysis, and real-time monitoring).

DARIJA SENTIMENT ANALYSIS PLATFORM

MACHINE LEARNING

- Developed a sentiment analysis platform for Darija (Moroccan Arabic) enabling real-time text and YouTube comment analysis using a machine learning model and fine-tuned Darija-BERT model.
- Tools:** FastAPI, ReactJS, DynamoDB, Amazon S3, Scikit-learn for Machine Learning & Deep Learning (including active learning).

EDUCATION

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| • Second-year Student in Data Engineering | 2023 - NOW |
| • Preparatory Cycle | 2021 - 2023 |
| • First year of Bachelor's degree | 2020 - 2021 |

ADDITIONAL INFORMATION

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| ◦ Languages & Frameworks: Python, Java (Spring Boot), JavaScript (React/NextJS) | ◦ Databases: RDBMS, PL/SQL, MongoDB |
| ◦ OS & Scripting: Linux, Windows, Bash | ◦ AI/ML: ML, DL, NLP, Generative AI, Agentic AI |
| ◦ DevOps/Cloud: Git, GitHub, Docker, AWS | ◦ Big Data: Spark, Hadoop, Hive, Sqoop |
| ◦ Big Data: Spark, Hadoop, Hive, Sqoop | ◦ Design/Modeling: Agile/Scrum, UML |
| ◦ Certifications: 10+ in Data & CS (Oracle, Coursera, etc.) | ◦ Soft Skills: Problem Solving, Teamwork, Adaptability |
| | ◦ Languages: English(Proficient), French(Proficient) |