

Mohamed Dyn

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PROFIL

Final-year Engineering Student (Data Science) at INSEA, seeking an end-of-studies internship to apply my knowledge in Data Engineering, Machine Learning, and Data Analytics on concrete projects.

EDUCATION

Institut National de Statistique et d'Économie Appliquée (INSEA)

Engineering Degree (MEng), Data Science

Rabat, Morocco

Sept. 2023 – Present

Classes Préparatoires aux Grandes Écoles (CPGE)

Preparatory Diploma in Mathematics, Physics, and Engineering Sciences

Tangier, Morocco

Oct. 2021 – July. 2023

PROFESSIONAL EXPERIENCE

TEMACONCEPT

Data Scientist (Intern)

Temara, Morocco

July. 2025 – Sept. 2025

Development of an optimization engine for CPGE teacher assignment : modeled the problem as a needs grid and implemented the Hungarian algorithm (Python) to maximize profile/position matching.Design of a RAG (Retrieval-Augmented Generation) system integrated into a chatbot to query assignment results using natural language.

⇒ **Performance Optimization** : Achieved **100%** automation of teacher assignment, reducing administrative time from **5** days to **2** hours via the implementation of the Hungarian algorithm in Python..

⇒ **Technologies** : Python, Pandas, LangChain, LLM, Vector DB.

MINISTRY OF RELATIONS WITH THE PARLIAMENT

Data Analyst (Intern)

Rabat, Morocco

July. 2024 – Aug 2024

Design of interactive dashboards (**Power BI**) for monitoring parliamentary activities, facilitating strategic decision-making by management.Data Cleaning and Modeling to transform raw data into reliable Key Performance Indicators (**KPIs**).

⇒ Facilitated decision-making through clear and interactive report representation.

PROJECTS

Deployment of a Serverless ELT Architecture on AWS

March 2025

- Designed an **automated data pipeline** for commercial analysis (Ingestion S3 → Transformation Glue → Warehousing Redshift).
- Orchestrated workflows via **Apache Airflow** ensuring reliability and error recovery.
- **Stack** : AWS (S3, Glue, Lambda, Redshift), Airflow, Power BI.

⇒ **Gain** : Reduced data availability latency from **24h à 15 min**,enabling near real-time steering.

Automation of Big Data ETL Flows (Azure & Databricks)

Apr. 2025 – May 2025

- Implemented a **Medallion Architecture** (Bronze/Silver/Gold) on Azure Databricks to clean and structure raw data.
- Developed optimized **PySpark** jobs and continuous ingestion via **Auto Loader**.
- **Stack** : Azure Data Factory, ADLS Gen2, Databricks, PySpark.

⇒ **Bénéfice** : Accelerated massive data volume processing by **40%** because of Spark distributed computing.

Development of a Medical AI Assistant (RAG RLHF)

May 2025 – June 2025

- **RAG** Architecture with vector indexing in **ChromaDB** to query medical PDF documents.
- Implemented an **RLHF** loop stored in **PostgreSQL** to fine-tune the model.
- **Stack** : Python, LangChain, FastAPI, Docker, PostgreSQL.

⇒ **Impact** : Improved response accuracy and reduced hallucinations compared to a standard **LLM**.

TECHNICAL SKILLS

Cloud & DevOps : AWS (S3, Glue, Lambda, Redshift, Athena, SageMaker), Azure (Data Factory, Synapse, ADLS), Docker, Git, CI/CD

Data Engineering : Apache Spark (PySpark), Databricks, Apache Airflow, Kafka, Hadoop (HDFS/MapReduce), DBT, ETL/ELT Pipelines

Data Science & IA : Machine Learning (Scikit-learn, TensorFlow), GenAI (LLMs, RAG, LangChain, Ollama, Hugging Face), MLOps

Programmation & Bases de Données : Python (Advanced), SQL (Advanced), Scala, Java, NoSQL (MongoDB, Cassandra, HBase), PostgreSQL, DuckDB

Développement Web & API : FastAPI, Flask, React, REST APIs

Business Intelligence : Power BI (DAX, Power Query), Tableau, AWS QuickSight

LANGUAGES

English (Fluent)

French (Fluent)

Arabic (Native))