

HAMZA ALAOUI MHAMDI

✉ alaoui.hamza2002@gmail.com ☎ +212 670 588 416

in [hamza-alaoui-mhamdi](#)  [hamza-rx12](#)  [alaouihamza.vercel.app](#)

EDUCATION

National School of Applied Sciences of Al Hoceima (ENSAH)

Al Hoceima, Morocco

Engineering Degree in Data Engineering – Expected Graduation: June 2026

2023 – Present

- **Relevant Coursework:** Distributed Systems, Machine Learning, Deep Learning, Big Data Technologies, Database Systems, Cloud & Virtualization, Business Intelligence.

National School of Applied Sciences of Al Hoceima (ENSAH)

Al Hoceima, Morocco

Preparatory Cycle for Engineering Studies.

2021 – 2023

EXPERIENCE

ShiftBricks

Al Hoceima, Morocco

Intern

July – September 2025

- Built a **FastAPI** backend with **Azure Functions** to process legal documents and extract key information using Azure OpenAI, storing results in Azure flexible **PostgreSQL** and Blob Storage.
- Developed a **React + TypeScript** frontend enabling lawyers to collaborate on case files and view structured summaries.
- Deployed the system on **Azure**, coordinating serverless functions, database, and storage for scalable, secure document handling.

SKILLS

Programming: Python (4 years), Java (3 years), SQL, JavaScript/TypeScript, C, Bash.

Big Data & Distributed Systems: Apache Spark, Kafka, Flink, Hadoop.

Machine Learning & AI: TensorFlow, Keras, Scikit-learn, Hugging Face, LangChain, NLTK, SpaCy.

Data Analysis: Pandas, NumPy, Matplotlib, Seaborn.

Web Development: Spring Boot, Flask, FastAPI, React, Tailwind CSS.

Databases: PostgreSQL, MySQL, MongoDB, Oracle Database, Redis.

Cloud & DevOps: AWS, Azure, Terraform, Docker, Git, Linux.

PROJECTS

Big Data Network Billing Pipeline | *Spark, Kafka, Flink, MongoDB, Docker*

- Built a real-time and batch billing **pipeline** for network usage data (SMS, voice, internet), handling over **1,000** records/s with <50ms latency in **Flink** and aggregating monthly datasets of 5GB in **Spark**.
- Developed a **Streamlit** dashboard for usage analytics and automated invoice generation, deployed through **Docker Compose**.

Linux Command Completion with Neural Networks | *TensorFlow, Keras, Python*

- Developed neural network models (**LSTM**, **GRU**, **RNN**) for intelligent shell command prediction achieving **85%** top-5 accuracy on **5000** command sequences for **LSTM**.
- Integrated with **Bash** shell via custom scripts for real-time command suggestions launched through a keybinding.

Serverless ML Image Processing Pipeline | *AWS, Terraform, CI/CD*

- Built event-driven serverless pipeline with **AWS Rekognition** for image analysis (Labels, Faces, Text), orchestrated by **Step Functions** coordinating 6 **Lambda** functions, **DynamoDB** storage, and **S3**, achieving 99.9% availability.
- Automated deployment with GitHub Actions CI/CD pipeline (pytest, **Lambda** packaging, **Terraform**) and managed 15+ AWS resources via **Infrastructure as Code**, enabling reproducible multi-environment deployments.

TagWize – Collaborative Data Annotation Platform | *Spring Boot, React, Redis, MariaDB*

- Designed **full-stack** annotation platform supporting multiple annotation types for ML dataset labeling with **JWT** authentication and **Redis** caching for concurrent users.
- Built responsive **React** frontend with **RESTful API** supporting multi-user collaboration and role-based access control.

LANGUAGES

Arabic (Native) | French (Fluent) | English (Fluent)