

ZAALI Mohamed

Engineering Student

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EDUCATION

Student in Data Science, AI, and Digital Health - **ENSAM RABAT**

SEP 2023 - Present

PROFESSIONAL EXPERIENCE

Al Barid Bank - Full Stack Developer Intern

JUL 2025 - SEP 2025

RABAT

Design and development of a platform for analyzing POS, SoftPOS, and e-commerce transactions.

- Built a **secure REST API** (Spring Boot, JWT) enabling fast access to aggregated transaction data.
- Designed and delivered an **interactive dashboard** (Angular, ngx-charts) for transaction visualization and exploration.
- Created the **software architecture in UML** to ensure system maintainability and scalability.

Ministry of Youth, Culture and Communication - Data Science Intern

JUL 2024 - SEP 2024

RABAT

Development of a predictive analytics system for cultural heritage preservation.

- Developed a **predictive model** (Random Forest, 92% accuracy) to forecast cultural heritage degradation.
- Integrated the model into a **web application** (Flask) to support experts in decision-making.
- Deployed the solution on an **Ubuntu server** (Gunicorn, Nginx), ensuring availability and performance.

PROJECTS & ACCOMPLISHMENTS

AI & Web Development

- AL-MUQARRIR - Automatic Transcription & Meeting Minutes Generation:** Web platform for **real-time transcription**, speaker **diarization**, and automatic generation of **meeting minutes** with **semantic analysis**. | *Technologies:* Whisper (OpenAI) PyAnnote Gemini API Flask Angular SQLite
- Cura - Disease & Medication Tracking:** Web application for treatment management with AI-powered **drug interaction detection** and generation of patient-friendly alerts. | *Technologies:* PyTorch Gemini API Flask SQLAlchemy Bootstrap SQLite

Deep Learning

- LipReader - Lip-Reading Application:** Application converting lip movements into text. | *Technologies:* TensorFlow Streamlit
- NER - Named Entity Recognition Models:** Developed an application capable of identifying named entities. | *Technologies:* Python Streamlit Keras SpaCy Stanza

Machine Learning

- Real-Time Network Intrusion Detection System:** System capturing and analyzing network packets in real-time. | *Technologies:* Python Kafka PyShark Pandas Scikit-learn Joblib
- Anxiety Level Prediction:** Platform for assessing and predicting anxiety levels based on psychological, demographic, and behavioral information. | *Technologies:* Python Scikit-learn Flask Bootstrap Joblib

Web Development

- GESTAG - Intern and Internship Management:** Developed a web application for managing interns and internships. | *Technologies:* Figma HTML CSS JavaScript Java EE PL/SQL

Big Data

- MySQL-to-Hadoop Pipeline:** Designed and implemented a data migration pipeline from a MySQL database to HDFS via Sqoop, with analysis using Hive. | *Technologies:* Apache Sqoop Hadoop HDFS Apache Hive MySQL Docker Linux Shell

Business Intelligence & Visualization

- Pixar Movies Analysis - Interactive Dashboard:** End-to-end BI project analyzing 25 years of Pixar data (revenues, budgets, and performance). | *Technologies:* Power BI Python Pandas Matplotlib Seaborn
- BigMart Sales Analysis - Dashboard in Google Looker:** Retail analytics dashboard providing strategic insights on sales and inventory optimization. | *Technologies:* Google Looker Python

[View Dashboard](#)

TECHNICAL SKILLS

Programming Languages: Python Java C/C++ MATLAB

Web Technologies & Frameworks: HTML CSS JavaScript Bootstrap Angular Streamlit Flask Spring Boot

Databases: MySQL Oracle MongoDB SQLite

Data Science & AI: Machine Learning Deep Learning

Big Data: Hadoop Hive Sqoop Kafka

Data Integration: Talend Data Warehousing ETL

Visualization & BI: Power BI Google Looker

EXTRACURRICULAR ACTIVITIES

Learning Experience Architect - Fatal Error Club ENSAM Rabat **SEP 2024 - JUN 2025**

- Designing and leading hands-on workshops in data science, machine learning, and software development.
- Collaborating with the team to create innovative educational programs aligned with the organization’s mission.
- Continuously evaluating training sessions to optimize outcomes.

CERTIFICATIONS

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|---|--|
| • CCNA: Introduction to Networks | • Introduction to Data |
| • Data Structures and Algorithms in Python | • Python Programming Fundamentals |

LANGUAGES

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|--------------------------|-------------------------|-------------------------|
| • English: Fluent | • French: Fluent | • Arabic: Native |
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