

# MOHAMMED EL BARHICHI

AI Engineering student seeking for a 6-month end-of-studies internship starting May 2025

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## PROFESSIONAL EXPERIENCES

### Data Science & AI Consultant

#### E-volucion by Intelcia

April 2024 – August 2024

Casablanca, MA

- Designed and developed personalized chatbots based on advanced Retrieval-Augmented Generation (RAG) architecture, achieving 87% score in answer relevancy.
- Collaborated with the software engineering team to integrate the chatbots into client systems for two major clients, improving user experience and interaction efficiency.
- Keywords: LLMs, LangChain, Azure, OpenAI, LangSmith.

### Co-Founder & CTO

#### H'ArtNov

September 2023 – August 2024

- Collaborated with cardiologists to develop advanced cardiac anomaly detection and crisis prediction models, achieving 95% sensitivity and 92% specificity.
- Designed a connected application for smartwatches, providing real-time monitoring and communication with healthcare professionals, ensuring informed decision-making and personalized care.
- Distinctions: Awarded Best Innovation Project twice among 40 projects.

### Data Scientist

#### Africa Verify

June 2023 – September 2023

Casablanca, MA

- Identified a 70% efficiency improvement opportunity using web scraping.
- Proposed and implemented an automated data extraction approach based on NLP, achieving a 95% time-saving in daily tasks.
- Keywords: BeautifulSoup, Selenium, Named Entity Recognition, NLTK.

## PROJECTS

### Virtual Guidance Assistant based on Graph-RAG

- Implemented a RAG-based chatbot for academic and career guidance for high school and university students, featuring an advanced chunking strategy and a graph-based approach.
- Integrated Neo4j structures for managing graphs and vectors to enhance recommendation accuracy.
- Keywords: LLM, Graph-Vector, Streamlit, Chatbot, POC.

### Advanced Recommendation System based on GAN

- Proposed a new model for recommendation systems based on Generative Adversarial Networks.
- Published a scientific article presenting our model's results, surpassing the performance of existing collaborative filtering models across all evaluation metrics.
- Keywords: Deep Learning, Neural Networks, Matrix Factorization.

### Facial Emotion Recognition

- Designed, deployed, and maintained a facial emotion recognition model in production.
- Keywords: MLOps, TensorFlow, CI/CD, FastAPI, OpenCV, Docker, Grafana, Computer Vision.

## EDUCATION

### CentraleSupélec

#### Engineering Degree, Artificial Intelligence

September 2024 – Present

**Courses included:** Deep Learning, Reinforcement Learning, Game Theory.

### ESSEC Business School

#### Exchange Semester, Data Science

February 2024 – April 2024

**Courses included:** Data-driven Decision-making, Finance, Entrepreneurship & Innovation.

### Ecole Centrale Casablanca

#### General Engineering Program

September 2022 – February 2024

**Grade:** Ranked 2nd in class (2/180)

**Courses included:** Probability, Optimization, Statistics, Machine Learning, Operations Research, Project Management, Graph Theory, Programming.

## SKILLS

- Software:** Python, Dart, C, C++, Git, VBA, SQL.
- Data Science:** R, Scikit-Learn, Pandas, Numpy, Matplotlib, Seaborn, Pytorch, Keras, LangChain.
- Others:** Dataiku, AWS, GCP, Advanced Excel, Advanced PowerPoint, PowerBI, OOP.
- Soft Skills:** Problem Solving, Design Thinking, Leadership, Analytical Mindset, Teamwork, Creativity, Curiosity, Agility.

## LANGUAGES

- English** (TOEIC, score: 900/990)
- French** (DALF C1)
- Arabic** (Native Language)

## CERTIFICATIONS

- DeepLearning.AI:** Deep Learning Specialization
- IBM:** Data Science Professional Specialization
- BCG:** Data Science Job Simulation
- KPMG:** Data Analytics Job Simulation

## DISTINCTIONS

- Finalist, Moroccan Olympiads in Informatics
- 2nd Prize, Strategy Consulting Hackathon, BCG
- Innovation Award, H'ArtNov (40 teams)
- Best Scientific Project (32 teams)