



## Summary

Final-year student in the engineering cycle in Artificial Intelligence at the National School of Artificial Intelligence and Digital (ENIAD), I have recently completed an internship at Capgemini, where I developed an intelligent fault diagnosis system for the automotive sector (NLP, classification, RAG, AI interfaces). I am seeking a **4 to 6 months internship** starting from **January 2026** in AI, machine learning, and natural language processing. Rigorous, curious, and passionate, I aim to contribute my skills to an innovative team and participate in high-impact projects.

## Professional Experience

**Internship – Intelligent Engine Fault Diagnosis using AI** *Capgemini, Casablanca* July–Sept 2025 (2 months)  
Summary: Development of a PCA recommendation system from GIM tickets (NLP/RAG) for the automotive sector.

Tasks:

- Designed a complete NLP pipeline (preprocessing, vectorization, classification).
- Fine-tuned Hugging Face models (DistilBERT) and compared with traditional algorithms (Random Forest).
- Performed targeted data augmentation up to 17,800 rows to improve rare class coverage.
- Built a Streamlit interface with an integrated business chatbot powered by Generative Engine (Capgemini).
- Implemented model explainability using SHAP and authored the POC documentation.

Tech: Python, Hugging Face (Transformers), scikit-learn, Pandas, Streamlit, SHAP, Git, Generative Engine (Capgemini).

**Machine Learning Internship** *PRODIGY INFO TECH, Hybrid* Jan–Feb 2024 (1 month)

Summary: Supervised and unsupervised ML mini-projects.

Tasks:

- Real estate price regression (feature pipeline + evaluation).
- Customer segmentation with K-means and cluster interpretation.
- Image classification (SVM) and gesture recognition (OpenCV).
- Reproducible Jupyter notebooks and reporting.

Tech: Python, scikit-learn, Pandas, NumPy, OpenCV, Jupyter Notebook.

**Final Year Project – Facial Recognition** *IBN ZOHR, Ouarzazate* Mar–Jun 2023 (4 months)

Summary: Desktop facial recognition application.

Tasks:

- Dataset creation, preprocessing, and annotation.
- App development (Tkinter) and real-time inference pipeline.
- Model evaluation/optimization and final validation.

Tech: Python, Tkinter, Dlib, OpenCV, NumPy, Pillow, VS Code, PyCharm.

## AI Projects

**PrepGenius: AI Platform for Exam Review and Preparation** [GitHub Link](#) 2025

- Developed an intelligent educational platform to automate revision and MCQ generation.
- Implemented an NLP pipeline with Gemini/OpenAI to summarize PDFs and generate corrected quizzes.
- Designed a microservices architecture with FastAPI (backend) and React (frontend).
- Integrated Qdrant for vector search and SerpAPI for intelligent research assistance.
- Deployed on Vercel with Swagger documentation and real-time service monitoring.

Tech: Python, Gemini API, LangChain, Qdrant, Streamlit, SerpAPI, FastAPI, React, Firebase, Vercel.

**Application Development with DeepSeek AI** [GitHub Link](#) 2024

- Created an innovative project leveraging DeepSeek AI API.
- Published and shared the project on GitHub and LinkedIn.
- Implemented advanced NLP techniques.

**Customer Review Classification** [GitHub Link](#) 2024

- Compared ML models (Logistic Regression, SVM) and deep learning models (RoBERTa, XLNet) for review classification.
- Preprocessed text data with NLP (tokenization, stopwords, TF-IDF, word embeddings).
- Evaluated models with metrics such as accuracy and F1-score.

- Built an interactive Streamlit interface for testing.

## Education

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**National School of Artificial Intelligence and Digital Technology**, Berkane  
*State Engineer Degree in Artificial Intelligence* – (2023–Present)

**Faculty of Ouarzazate**, Ouarzazate  
*Bachelor's in Mathematics, Computer Science and Applications* – (2022–2023)

**Faculty of Ouarzazate**, Ouarzazate  
*DUGE in Mathematics, Computer Science and Applications* – (2021–2022)

**Technical High School IBN AL HAITAM**, Ouarzazate  
*Baccalaureate in Science and Technology* – (2018–2019)

## Technical Skills

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- **Languages:** Python, C/C++, SQL, JavaScript, Bash, LaTeX
- **AI / Machine Learning & Deep Learning:** Scikit-learn, **PyTorch**, TensorFlow, Keras, XGBoost, LightGBM, SHAP, TorchRL, TF-Agents
- **NLP & LLM: Hugging Face** (Transformers, Datasets, Evaluate), spaCy, NLTK, RAG, LangChain, Qdrant, OpenAI API, Gemini API
- **Computer Vision:** OpenCV (image processing, gesture/object detection), Pillow
- **MLOps & Deployment:** Docker, FastAPI, Streamlit, MLflow, GitHub Actions (CI/CD), Azure Machine Learning, automated tests (*pytest*)
- **Data & Databases:** Pandas, NumPy, Polars, SQL (PostgreSQL, MySQL, SQLite), NoSQL (MongoDB), basic ETL pipelines (Airflow)
- **Web Development & Visualization:** React, Next.js, Node.js, .NET Core, REST APIs, WebSockets, Matplotlib, Plotly, Seaborn
- **Systems & Tools:** Linux, Git, Jupyter Notebook, Google Colab, VS Code
- **Methodologies:** Agile/Scrum, Kanban, Jira, Confluence, technical documentation, clean code

## Leadership & Engagement

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**ENACTUS Berkane** – Active Member 2024–Present

- Participated in social and entrepreneurial projects to improve local communities.
- Collaborated with a multidisciplinary team to develop innovative and sustainable solutions.
- Organized events and awareness campaigns.

**Faculty of Ouarzazate (FPO)** – Student Representative 2022–2023

- Represented students to administration to improve academic and social conditions.
- Mediated between students and faculty to resolve conflicts and improve communication.

## Languages

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- Arabic: Native
- French: Fluent (B2)
- English: Fluent (B2)