

# HAFSA OUAJDI

France — Luxembourg

☎ +336 12 78 48 71 ✉ [hafsa.ouajdi.fr@gmail.com](mailto:hafsa.ouajdi.fr@gmail.com) [in](#) [Linkdin](#) [G](#) [Github](#) [k](#) [Kaggle](#) [G](#) [Gitlab](#)

## Education

### Master of Engineering — Centrale Nantes

Sep. 2021 – Oct. 2024

*Applied Mathematics, Machine Learning, and Signal Processing with applications in Medical domain.*

*Nantes, France*

### Preparatory classes (CPGE)— Lycée Mohammed VI d'Excellence

Sep. 2019 – Jul. 2021

*Intensive math and physical science courses to prepare for French engineering college competitions.*

*Benguirir, Morocco*

## Internships

### Data Scientist Intern — 6-Months

Apr. 2024 – Sep. 2024

*Paul Wurth (SMS Group)*

*Luxembourg, Luxembourg*

- Implemented advanced machine learning models for multivariate time series forecasting and anomaly detection.
- Studied and analyzed pipeline automation model development (AutoML).
- Deployed the automated pipeline in a web application using Python, GPU, PyTorch, NextJs, Django, and Docker.
- Continuous Integration/Continuous Delivery (CI/CD) with Azure DevOps.

### R&D Engineer in Virtual Reality & Deep Learning Intern — 5-Months

Apr. 2023 – Aug. 2023

*SEGULA Technologies*

*Nantes, France*

- Researched VR collaboration for industrial applications and authored a survey as a research assistant.
- Designed and built an immersive collaborative tool using Unity3D and C# programming language as part of the "SADENav" project to enhance industrial navigation experiences.
- Applied deep learning to predict the positions of constrained objects in a 3D environment.

## Professional Projects

### Environmental Audio Deep Fake Project

Nov. 2023 – Mar. 2024

*Collaborative Project: Centrale Nantes and Carnegie Mellon University*

*Nantes, France*

- Developed an advanced deep classification system with 98% accuracy using embeddings and PyTorch.
- Co-authored a conference paper for EUSIPCO 2024.

### International Business Development and AI Project

Nov. 2023 – Mar. 2024

*Mantu*

*Nantes, France*

- Evaluated AI solutions to optimize sales processes and conducted ROI analysis for each solution.

### Project Manager

Jan. 2022 – May 2022

*Dyvern logistics*

*Nantes, France*

- Managed a team of six engineering students to develop a web application for carbon emission tracking.

## Personal Projects

**Sentiment Analysis:** I used BERT for hotel reviews analysis, achieving 88% accuracy on the test set.

**Image Captioning:** I used Transformer Architecture for image captioning.

**Stock Price Prediction:** Time series analysis using Long Short Term Memory (LSTM) to predict stock prices.

**Computer Vision Project:** Traffic sign recognition using CNN, achieving 98% accuracy.

## Publication

### Detection of Deepfake Environmental Audio

2024

*European conference on signal processing 2024.*

*Lyon, France*

## Technical Skills

**Programming languages:** Python, C++, C#, JavaScript.

**Machine Learning:** Covariance matrix optimization, Classification(Random Forest, KNN, SVM), Regression Modeling(linear, logistic, regularized, sparse), Principal Component Analysis (PCA, PCR, sparse PCA), clustering(K-means).

**Deep Learning:** CNN, RNN, LSTM, NLP, LLM, Transformers, Diffusion Models, GANs.

**Libraries/Frameworks:** Tensorflow, PyTorch, Keras, Scikit-Learn, Pandas, NumPy, Matplotlib, Seaborn, OpenCV, Scipy.

**Web development:** HTML/CSS, JavaScript, NodeJS, ReactJS, NextJS, TypeScript.

**Tools:** Apache Spark, ETL/ELT, Microsoft Azure Cloud, Data Warehousing, Data Lakes, Kubernetes, Git/GitHub/GitLab, Docker, Linux, SQL, Visualisation de données (PowerBI, Tableau), Blender, Unity3D, LaTeX.

## Languages

English (Advanced), French (Fluent), Arabic (Native), Spanish (Intermediate).