

Marwan Mashra

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Machine Learning | Deep Learning | Computer Vision | Image Processing | NLP | Ethics of AI
Software development | MLOps | Data Mining | Data Pipeline | Large-scale distributed data processing
Proficiency in: *Python • JavaScript • SQL • C++*

PROFESSIONAL SUMMARY

I was selected among **500 Yemeni students** for the [HFHD Scholarship](#) to pursue my studies in France. I'm currently pursuing a **master's degree in AI** at the university of **Paris-Saclay**. I have **5 years** of experience in computer science, successfully completed **4 internships**, won a **1st Prize** in a data science **Hackathon**, spearheaded, and contributed to over **20 projects**, and was student delegate for **2 years**.

CAREER HIGHLIGHTS

Machine learning: worked on different fields including Deep Learning, Computer Vision, NLP, Ethics of AI.
Research: conducted research on Ethics of AI during which I studied and reviewed many research papers.
Development: built, tested, and delivered different software, writing clean, and well-documented code.
Leadership: spearheaded several teams of 2 to 4 members in projects, and student delegate for 2 years.

EDUCATION

Master – Artificial intelligence , <i>University of Paris-Saclay, France</i>	2023 – 2021
Bachelor – Computer science , <i>University of Montpellier, France</i>	2021 – 2018
DELFI B2 - French language , <i>Accent Français, France</i>	2018 – 2017

AWARDS

I won **1st place** for Technical Excellence among **16 teams** in **Hackathon** awarded by **TotalEnergies**. In under 48h, we developed an AI solution using **Computer Vision** to detect a car in an image and estimate its CO2 emission, obtaining the **highest score**. See on [GitHub](#) or [Hackathon Website](#) or see the [Certificate](#).

KEY SKILLS

✓ Leadership	✓ Autonomy	✓ Humble & always hungry to learn more
✓ Teamwork	✓ Adaptability	✓ Good programming & problem-solving skills
✓ Proactivity	✓ Time management	✓ Good English & French communication skills

TECHNICAL SKILLS

Programming languages: *Python • JavaScript • C/C++ • SQL • Java • PHP • HTML • CSS • OCAML • LaTeX*

Machine learning: *PyTorch • Scikit-Learn • TensorFlow • Keras • OpenCV • Transformers • Spacy • Gensim*

Tools: *Docker • Kubernetes • Flask • Spark • Hadoop • Map/Reduce • MongoDB • Elasticsearch • jQuery*

Python Tools: *NumPy • Pandas • Matplotlib • Pillow • SciPy • NLTK • Seaborn • Plotly*

Collaboration Tools: *Git • Jira • Trello • Asana • Overleaf • Deepnote*

Environnements & IDE: *Linux • VScode • Jupyter notebooks • Eclipse • PyCharm*

LANGUAGES

English: Fluent (TOEIC 920)

French: Fluent (DELF B2)

Arabic: Native language

PROFESSIONAL EXPERIENCE

Research Intern, CNRS – LISN research lab, Paris, France

June - July 2022

Use **Computer Vision** and **Augmented Reality** to implement **real-time style transfer on AR glasses** and explore its ability to help patients in therapy

- Starting soon...

Research Student, University of Paris-Saclay, Paris, France

Nov. - Jan. 2022

A research internship at the university during which I conducted **research on Ethics of AI**, and **prepared data** for a TRUSTAI, a challenge on CodaLab about **discriminatory biases** in Machine Learning

- Investigated and reviewed the scientific literature on discriminatory biases and evaluation metrics.
- Collected, explored, and analyzed multiple datasets for the TRUSTAI challenge.
- Built a pipeline to preprocess and format the dataset and produced several visualizations.

Software Engineer Intern, LIRMM – Research Lab, Montpellier, France

July – Aug. 2021

Building a **vocal assistant** with a **microservices architecture** using **Python & Docker**

- Designed, implemented, and tested a microservices-based vocal assistant using Python and Docker.
- Built an interactive web user interface to visualize and interact with the data base.
- Delivered a prototype on a Raspberry Pi and a 20-page documentation.

Web Developer Intern, LIRMM – Research Lab, Montpellier, France

June – July 2020

Building a digital version of **Labo DataViz** using **JavaScript, Flask, and MongoDB**

- Designed a digital version of Labo DataViz presented in 2019 by UQAC.
- Coordinated a team of 3 to build, test, and deliver a responsive web platform in under 2 months.

App Developer Intern, PERFORM VR, Montpellier, France

June 2019

Optimized and improved a virtual reality **android application** with **Java**

- Optimized a virtual reality mobile app and improved the correction algorithm of the gyroscope drift.

TECHNICAL PROJECTS

Variational Autoencoder, *Python • PyTorch • NumPy • Pandas • Matplotlib*



Implemented a Variational Autoencoder with PyTorch to generate MNIST images

Deep Network, *Python • NumPy • Matplotlib • Backpropagation • Momentum SGD Optimizer*



Implemented a Deep Neural Network (Multi-Layer Perceptron) from scratch without PyTorch

Hyponymy Extraction, *Python • Spacy • Prodigy • NLTK • Scikit-Learn • Pandas • NumPy*



Built & trained a model for Named-entity recognition (NER) and extracted hyponymies in tech patents

Twitter Streaming Data, *Python • Spark • Elasticsearch • TwitterAPI • Socket • TextBlob*



Used Spark & Elasticsearch to process, cluster, index, and query tweets from a data stream

Sentiment Analysis, *Python • Transformers • Gensim • NLTK • Scikit-Learn • Imblearn • Plotly*



Performed a sentiment analysis for Amazon reviews using Bert, embeddings, and other NLP approaches

Aerial Challenge, *Python • TensorFlow • OpenCV • Scikit-Learn • NumPy • Pandas • Matplotlib*



Achieved 91.4% accuracy on a multi-class geographic image classification challenge on CodaLab

To-Be Challenge, *Python • Scikit-Learn • XGBoost • LightGBM • NumPy • Pandas • Plotly*



Achieved 77% accuracy and ranked top 3 in a medical data classification challenge on CodaLab

Geoscape, *JavaScript • jQuery • Python • Flask • RedditAPI • MongoDB • HTML • CSS*



Developed all the frontend & some of the backend of a web platform for scraping images from Reddit