

Marwan Mashra

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Statistical Machine Learning | Deep Learning | Computer Vision | NLP
Software development | Large-scale distributed data processing

PROFESSIONAL SUMMARY

I'm a student currently pursuing a **master's degree in AI** at the university of Paris-Saclay. I worked on projects in many different fields of AI. I have **5 years** of experience in computer science, successfully completed **4 internships**, contributed to over **20 projects**, led several teams, and conducted research.

CAREER HIGHLIGHTS

Machine learning: worked on different fields including statistical ML, Computer Vision, NLP, Ethics of AI.
Research: conducted research on Ethics of AI during which I studied and reviewed many research papers.
Development: contributed to over 20 projects, writing clean, and well-documented code.
Leadership: student delegate for 2 years, and project manager leading several teams of 2 to 4 members.

KEY SKILLS

- ✓ Leadership
- ✓ Teamwork
- ✓ Autonomy
- ✓ Time management
- ✓ Good English & French communication skills
- ✓ Good programming & problem-solving skills

TECHNICAL SKILLS

Machine learning: Scikit-Learn PyTorch TensorFlow Keras OpenCV Transformers Spacy Gensim
Python Packages: NumPy Pandas SciPy NLTK Pillow Matplotlib Seaborn Plotly
Programming languages: Python JavaScript C/C++ SQL Java PHP HTML/CSS OCAML
Tools & Frameworks: Docker Spark Hadoop Map/Reduce Elasticsearch MongoDB Flask jQuery
Collaboration Tools: Git Jira Trello Asana Overleaf Deepnote
Environnements & IDE: Linux Anaconda(Jupyter) VScode Eclipse PyCharm

LANGUAGES

English: Fluent (TOEIC 920) **French:** Fluent (DEL F B2) **Arabic:** Native language

AWARDS

My team and I took part of the **Hackathon** organized by Hi! PARIS Center in Mars 2022, winning the **1st prize** for the **Technical Excellence** 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**.

EDUCATION

Master – Artificial intelligence , University of Paris-Saclay, France	2021(enrolled)
Bachelor – Computer science , University of Montpellier, France	2021 – 2018
DEL F B2 - French language , Accent Français, France	2018 – 2017

PROFESSIONAL EXPERIENCE

AI 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 applications to help patients in therapy. Then build a **prototype**

- 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 ML

- Inspected and reviewed the scientific literature on the ethics of AI.
- Studied different forms of discriminatory biases and metrics for evaluating fairness.
- Explored and analyzed multiple datasets that can be used in 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**

- Created a cross-platform vocal assistant application in Python with a microservices architecture.
- Implemented and built Docker images for the different components of the application.
- Built and deployed a TensorFlow model for real-time emotion recognition.
- Built an interactive web user interface to visualize and interact with the data structure.
- Implemented the application in a Raspberry Pi.

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.
- Built an interactive web interface with JavaScript, Python, HTML/CSS.
- Created a Database with MongoDB for the platform.

App Developer Intern, PERFORM VR, Montpellier, France

June 2019

Help improving a virtual reality **android application** with **Java**

- Helped optimizing a virtual reality android application.
- Helped Improving the correction algorithm of the de la gyroscope drift.

PROJECTS

Variational Autoencoder **PyTorch** **NumPy** **Pandas** **Matplotlib**

Deep Learning | Implementing a Variational Autoencoder with PyTorch for image generation

Hyponymy Extraction **Spacy** **Prodigy** **NLTK** **Scikit-Learn** **Pandas** **NumPy**

NLP | Using Spacy to train a NER for tech terms in patents & extracting hyponymies

Twitter Streaming Data **Spark** **Elasticsearch** **TwitterAPI** **Socket** **TextBlob**

Big Data | Using Spark & Elasticsearch to process streaming data from the Twitter API

Deep Network **NumPy** **Matplotlib** **Backpropagation** **Momentum** **SGD** **Optimizer**

Deep Learning | implementing of a Deep Neural Network from scratch (without PyTorch)

Sentiment Analysis **Transformers** **Gensim** **NLTK** **Scikit-Learn** **Imblearn** **Plotly**

NLP | A sentiment analysis for Amazon reviews using Bert, embeddings, and other NLP approaches

Aerial Challenge **TensorFlow** **OpenCV** **Scikit-Learn** **NumPy** **Pandas** **Matplotlib**

Computer Vision | Building a CNN with TensorFlow for multi-class geographic image classification