Marwan Mashra

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**Objective:** Looking for a position as a Machine Learning Engineer/Data Scientist from September 2023

# Professional Experience

## Mars - Sep. 2023

**Deep Learning Engineer, Intern** Stellantis **Paris, France**

* **Reduced by 74%** training time, while **increasing by 11%** the performance of state-of-the-art model DenseTNT.
* **Improving** an internally developed model PreTR, by adding multimodality, and allowing for a scene-aware backbone.
* **Adapted state-of-the-art** vehicles trajectory prediction models, Vecternet, DenseTNT, for pedestrian’s trajectory prediction.
* Extractedmap information of the Dataset ETH/UCY from raw images and converted it to a vector representation.

## Feb. - Mars 2023

**Computer Vision Engineer, Freelance** Flaggr **Paris, France**

* **Reduced by 60%** inference time of the main vehicle detection algorithm, while **losing** **less than 4%** accuracy.
* **Automated the evaluation** of new models by creating a Benchmark pipeline.
* Implemented their first version of a night vehicle detection algorithm.

## May - Aug. 2022

**Research Intern** CNRS **Paris, France**

* **Designed a pipeline** allowing real-time AI content generation for Augmented Reality, by integrating state-of-the-art text-to-image diffusion models and AR motion tracking techniques.
* Investigated and **implemented state-of-the-art methods** for diffusion-based image generation, upscaling, and segmentation.

## Nov. – Feb. 2022

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

* **Launched**, under the supervision of **Isabelle Guyon**, the ML competition TRUSTAI on CodaLab.
* **Prepared the Dataset** used in the competition, building the preprocessing pipeline, and rigorously following strict guidelines.
* Explored and **reviewed more than 10 datasets**, diagnosing potential sources of discriminatory biases.
* Determined a bias evaluation metric, after inspecting the scientific literature on fairness in machine learning.

## June - Aug. 2021

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

* **Led a team of 5** members as a Scrum master, following Agile software development practices and methodologies.
* Designed and built a **cross-platform Vocal Assistant**, using a microservices architecture with Python, Docker, and Flask.
* **Delivered in less than 3 months** a Raspberry Pi prototype, along with a design and technical documentation.

# Awards & Extra Activities

## 1st Prize Hackathon Organized by HEC & Institute Polytechnique & Irina | Awarded by TotalEnergies (see [certificate](https://www.mashra.fr/documents/Hackathon_certificate.pdf))

Awarded among 16 teams for having the best preforming AI model. The Hackathon focused on Computer Vision for sustainability.

**Excellence Scholarship** by Campus France

Selected among 500 students in my city for a 6-year merit scholarship, as part of an exchange program between Yemen and France.

**University Tutor** University of Paris-Saclay

Nominated by the Head of Master to tutor first year AI master students.

**Student Delegate**  University of Montpellier

Elected for 2 years consecutive by the Head of the Computer Science Department to represent more than 100 students.

# Skills & Languages

**Soft Skills** Leadership, Proactivity, Autonomy, Thirst for learning, Good programming & problem-solving skills, Good communication skills

**Technical skills** Areas of experience: Computer Vision, Transformers/Attention, Motion Forecasting, Image processing, Graph Neural Networks

Machine learning: PyTorch, TensorFlow, OpenCV, Scikit-Learn

Programming: Python, SQL/MySQL, C/C++, JavaScript

Tools : Docker, Slurm, Apache Spark, Fast API, , Flask, MongoDB, Git

**Languages English** (Fluent) **French** (Fluent)

# Education

## Sep. 2021 – Sep. 2023

**University of Paris Saclay Paris, France**

MSc in Artificial intelligence | see [transcript](https://www.mashra.fr/documents/transcript_mashra.pdf)

Main Courses: ML Algorithms, Deep Leaning, Computer Vision, Large-Scale Distributed Data Processing, Generative Models, applied statistics, Advanced Optimization, Signal Processing, NLP, Information Retrieval, Reinforcement Learning.

## Sep. 2018 – Aug. 2021

**University of Montpellier Montpellier, France**

BSc in Computer Science

Main Courses: Algorithms & Data Structures, Project Management, System design, Object-oriented programming.