

Saad TAZROUTE

Machine Learning Engineer from Ecole Centrale Marseille/Aix-Marseille University available starting from April 2023 for a Data Scientist / Machine Learning Engineer position .

1, Rue Moyrand 38100 Grenoble France

Curious and enthusiastic, I would love to participate in innovative projects to actively contribute to tomorrow's solutions. Online Portfolio : SaadTazroute.herokuapp.com

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Education

- 2021-2022 **Ecole Centrale Marseille (ECM) : Digital.e, Exchange Program** : Machine Learning and Large Scale Processing, Yield Management & Quantitative Marketing, Data analytics (Dataframes and Time series manipulation and analysis). Marseille, France
- 2021-2022 **Aix-Marseille University , Msc. IAAA** : Studied courses : In-depth Machine Learning & Big Data, Deep learning & Reinforcement Learning, Latent variable models and Bayesian theory, Parametric and Non-parametric estimation, Data mining and visualization, Applied statistics. Marseille, France
- 2018-2021 **Ecole Centrale Casablanca (ECC)**, Engineering program (Bac+5) : Followed courses : Probability, statistics, optimization, advanced Python, project management, economics, image processing, data visualization ... Casablanca, Morocco

Professional experiences

D3S : Data Science Strategic Services

Grenoble, France

DATA SCIENTIST

April 2022 – September 2022

- Formulation of the business need with customer on a project aiming at automating the calculation of cost for large-scale projects (Digital Costing)
- Implementation of architectures of the state of the art on various problems (**Time Series, Object Detection, OCR**)
- Participation in the development of the production pipeline of the new projects proposed by the customers. (**Git, Docker**)
- Technical stack : **Pytorch, Git, Docker, Tesseract API, WeightandBiases**

Two-i : Video Surveillance

Metz, France

MACHINE LEARNING ENGINEER

April 2021 – September 2021

- State of the art of Deep Learning architectures used in anomaly detection in videos. (**Encoder/Decoder, Convolutional LSTM**)
- Participation in the development of the production pipeline for new projects proposed by clients. (**Yolov4, Object detection**)
- Technical stack : **Keras, Git, Docker**

Laboratoire Ville Mobilité Transport / Ecole des Ponts Paristech

Paris, France

R&D INTERN

October 2020 – March 2021

- Simulating the propagation of panic in the presence of a stimulus in crowded situations.
- Using neural networks for semantic segmentation of drone images of fan zones at the Paris Olympics in 2024.
- Technical stack : **Keras, Git, Docker**

LIP6 <https://github.com/SaadTazroute/JurisprudencesClassification>

Paris, France

DATA SCIENCE INTERN

April 2020 – September 2020

- Exploration of state-of-the-art techniques for Natural Language Processing (NLP). (**Word Embedding , TF-IDF**)
- Use of Machine Learning algorithms and neural networks for text classification. (**BERT, CamemBERT, Scikit-learn**)
- Development of a tool for classifying the decisions of the French Court of Cassation.
- Technical stack : **Keras, Transformers Api**

Projects

End-to-end project : AI images generated platform

Marseille, France

FACE RETRIEVAL AND MORPHING

Septembre 2021 – Mars 2022

- Project aiming to create an end-to-end solution for generating state-of-the-art face images.
- Allows the user to find the celebrity who they resemble the most using pre-trained **CNN** and **Cosin similarity measure**.
- Enables face morphing between the user's image and the found celebrity using **StyleGAN3** pre-trained on **FFHQ-dataset**.
- Back-end development of a user interface and all the logic of the platform components based on Django (**Django, HTML, CSS**).
- Repository deployment on **Heroku** and hosting data on **AWS S3** bucket with **AWS RDS** for database hosting and management

Academic projects <https://github.com/SaadTazroute/I3A>

Marseille, France

ARTIFICIAL INTELLIGENCE PROJECTS

2021/2022

- Natural and Linguistic Language Processing : Semantic Similarity between 2 sentences in SemEval Benchmark (**RoBERTa/ Attention mechanism**)
- Reinforcement Learning Classical algorithms, and agent creation in different gaming environments (**Cat-Mouse game, Mountain-car game**)
- Multimodal and Monomodal models for music genre classification (PyTorch)
- Fine-Grained Image Classification using Vision Transformers ViT: Implementation of arXiv:2103.07976 (**Transformers**)
- Sentiment Analysis on Yelp dataset (**PySpark**)

Skills

Languages Arabic (Native), French (Bilingue), English (Toeic 950/990)

IA Computer Vision, Natural language processing, Time Series, GAN, Transfer learning, Attention Mechanisms

Python Back-end (**Django**), Scientific libraries (**Numpy, Pandas, Scipy**) Deep Learning packages (**PyTorch, Tensorflow**)

Others **Git, Docker, Streamlit, AWS cloud (S3, RDS, Sagemaker),**