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.

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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**, **Convolutionnal 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 **convolutional networks** 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**).
- Project deployment on Amazon **AWS** cloud

Academic projects   `https://github.com/SaadTazroute/I3A` — *Marseille, France*

ARTIFICIAL INTELLIGENCE PROJECTS — *2021/2022*

- Natural and Linguistic Language Processing : Semantic Similarity between 2 senteces in SemEval Benchmark (**RoBerta/ Attention mecanism**)
- 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: Implemenation 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	Scientific libraries (numpy,pandas,scipy) Deep Learning packages (PyTorch, Tensorflow),Dataviz(Matplotlib,Seaborn)
Version Control	Git, Docker