Mehyar MLAWEH

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Summary

Eager to contribute through research, I aim to pursue a PhD in Data Science to expand knowledge and make a difference in the field.

Work Experience

Summer Research Intern, Laboratory Paragraphe, University Paris 8 Jun 2024 - Aug 2024

I focused on generating professional medical reports from patient images using advanced Vision-Language models and large language models (LLMs) with generative AI techniques. I also worked on deploying these models in the AWS Cloud and developed a database for fine-tuning, comprising 400,000 annotated medical image samples, which is yet to be published.

Python Instructor, Paris Dauphine University, Tunis Summer 2024

Taught Python 1 and 2 to students aged 15-18. Helped them learn and practice Python from scratch to completing full projects in just two weeks.

Toulouse Research Institute in Information Technology Mai 2024 - Juin 2024

Focused on NLP and transformers (PLMs) with legislative documents

Python & Matlab freelancer, Upwork Nov 2022 - Jun 2023

Completed various projects related to data analysis, algorithm development, and tool creation.

Research Intern, GRIFT CRISTAL Laboratory Jan 2023 - Jun 2023

Researched and compared nonparametric probability density estimation methods.
Developed a metric using kernel density estimation to estimate the optimal number of epochs for CNN models. Collaborated with a team of 10 researchers.

Data Analyst Intern, Gammal Tech Jun 2022 - Sep 2022

Created more than 10 courses and explanatory videos in C/C++, covering database management, data extraction, and visualization.

Projects

Medical Image Captioning Not Open Source

Worked on generating descriptions from patient images using advanced Vision-Language models and large language models (LLMs) with generative AI techniques. Also involved in deploying these models in the AWS Cloud and developing a database for fine-tuning, which includes 400,000 annotated medical image samples, currently not published.

PluginKernel Demo

Developed a Python package for nonparametric probability density estimation, enabling efficient and accurate density estimation using various kernel methods and smoothing algorithm PlugIn.

Trending Twitter Analysis Demo

Implemented a comprehensive analysis of Twitter trends by scraping 15,400 tweets, categorizing them with Random Forest, performing sentiment analysis, and visualizing the results to provide insights into public opinion

NER Database of Resumes Demo

Created a dataset of 5,029 annotated resumes using Named Entity Recognition (NER) for IT skills. The dataset, labeled in JSON, facilitates training NER models with tools like Spacy, aiding in automated resume screening and analysis.

Labyrinth Exploration Strategies Demo

Explored various exploration-exploitation strategies in labyrinth navigation using Q-learning. Conducted experiments with different labyrinth sizes and hyperparameters.

Breast Cancer Diagnosis Demo

Evaluated 7 machine learning models on the Coimbra dataset to identify the best performer for binary classification of breast cancer. Analyzed key predictors and metrics to enhance diagnostic accuracy and understanding.

Education

2023 - 2025 **Master in Big Data & AI**
Paris Dauphine-PSL University
Keywords: Deep Learning, Time Series, Monte Carlo Methods, Optimization, NLP, Generative AI, Graphs, Bayesian Networks, Computer Vision

2020 - 2023 **Bachelor in Business Intelligence**
IHEC of Carthage
Keywords: Java, OOP, SQL, Web Development, OLAP, Power BI, Python, Machine Learning
(Grade: 16.79/20)

2019 - 2020 **Baccalaureate in Mathematics**, Pioneer School of Gafsa
(Grade: 16.31/20)

Honors and Awards

- First Place, Hackathon on "Airbnb and the Olympics", University Paris Dauphine Tunis
- Second Place, Hack for Care and Culture with AI, University Paris Dauphine Tunis
- Major of Promotion, Master's in Big Data and Artificial Intelligence, University Paris Dauphine Tunis

Skills

Programming Languages:	Python, Java, C++, SQL, R, MATLAB
Data Science & Machine Learning Tools:	PyTorch, Scikit-learn, fastAi, Pandas, NumPy, Flask, Streamlit, Gradio, AWS
Deep Learning Techniques:	Transformers, LLMs (e.g., BERT, GPT, CLIP, BLIP, LLaMA), Sentence Similarity, Clustering, Image Captioning
Soft Skills:	Negotiation, Teamwork, Communication, Decision Making