Ahmed Mrabet

Data Scientist

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EXPERIENCE

AI/BACKEND ENGINEER *Internship*

June 2022 – September 2022 | PULL4YOU SERVICES S.A.R.L, Casablanca, Morocco

- → Developed on-demand transportation service, enhancing user experience by generating the route 400% times faster
- → Constructed web app with Restful APIS for optimized route planning, decreasing travel time and saving fuel of each vehicle.
- → Analyzed and optimized multi-vehicle path.
- → Engineered algorithm for efficient vehicle paths.
- → Incorporated traffic patterns and road conditions into algorithm.
- → Integrated error detection system, reducing delays.
- → Implemented optimization system into existing backend.

Skills Acquired : Scrum · Docker · Agile Methodologies · Trello · GitHub · Django REST Framework · Django · Python · PostegreSQL · Postgis · RESTful API

PROJECTS

PROTEIN-PROTEIN INTERACTIONS PREDICTION

March 2023 - Present

- → Collected and preprocessed protein sequence and structural data
- → Investigate and analyze database characteristics: Examine the properties and attributes of protein databases to better understand their structure and content.
- → Converting protein sequences into graph-based representations, where nodes represent amino acids and edges represent spatial or sequential connections.
- → Employed Graph Neural Networks (GNN) to predict protein-protein interactions, enhancing understanding of complex biological processes

Skills : Python · Graph neural network (GNN) · Pytorch · Numpy · Pandas

TRAFFIC LIGHT OPTIMIZATION

January 2023 - Present

- → Engineered a traffic light optimization using Deep Reinforcement Learning and Markov Chains for enhanced traffic management
- → Integrated with the SUMO simulation environment to model various traffic systems
- → Capable of taking any traffic system as input and finding the most efficient traffic light configurations
- → Identified optimal traffic solutions by analyzing diverse scenarios and adjusting traffic light timings accordingly
- → Considered multiple vehicle types and driver behaviors

Skills : Python · Markov-chains · Tensorflow · Keras · SUMO · Deep Neural Network

ARABIC INFORMATION RETRIEVAL WEB APLLICATION

December 2022 - February 2023

- → Developed Arabic information retrieval web application as a team project
- → Enabled users to efficiently search and obtain information from a comprehensive database
- → Collected and preprocessed Arabic documents, streamlining search efficiency
- → Implemented powerful search engine to effectively retrieve relevant information

Skills : Tfidf · Python · Pandas · Numpy · PyArabic · Flask

SKILLS

PROGRAMMING

Proficient:
Python • R • Java • C • Bash

Familiar:
C# • Julia • HTML • CSS • Javascript • Typescript

LIBRARIES/FRAMEWORKS

Numpy • Pandas • Matplotlib • Seaborn • Tensorflow • Pytorch • Django • Flask • Pytest • BeautifulSoup • Selenium • Scikit-learn • OpenCV • Skimage

TOOLS/PLATFORMS

Git • Trello • Docker • Cuda • Anaconda • Postman • AWS

LANGUAGES

English • French • Arabic

EDUCATION

NATIONAL SCHOOL OF COMPUTER SCIENCE AND SYSTEMS ANALYSIS (ENSIAS IN FRENCH)

Engineering student in artificial intelligence

September 2021 - Present | Rabat, Morocco
Data Analysis,
Machine learning Theory,
High-performance computing,
Collective intelligence

COMPETITIONS

FINALIST AT MOROCCOAI COMPETITION

November 2022 - December 2022
We scraped African tender data and used machine learning and NLP to extract insights, advancing to the final round among 80 teams.