

Ahmed Mrabet

Data Scientist



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Bratet



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EXPERIENCE

AI/BACKEND ENGINEER INTERNSHIP

June 2022 – September 2022 | Casablanca, Morocco

- Developed on-demand transportation service, enhancing user experience
- Created web app for efficient route planning, reducing travel time
- Conducted analysis for multi-vehicle path optimization
- Developed route optimization plan, reducing fuel consumption
- Created algorithm for efficient vehicle paths, improving operational efficiency
- Incorporated traffic patterns and road conditions in algorithm
- Integrated error detection system, minimizing delays
- Implemented optimization system in existing backend

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

PROJECTS

PROTEIN-PROTEIN INTERACTIONS PREDICTION

Mars 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

Jan 2023 - Present

- Developed 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 APPLICATION

Dec 2022 - Feb 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 : Python · Pandas · Numpy · PyArabic · Flask

SKILLS

PROGRAMMING

Proficient:

Python · R · Java · C · Bash · SQL

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 (EN-SIAS IN FRENCH)

ENGINEERING STUDENT IN ARTIFICIAL INTELLIGENCE

Sep 2021 - Present | Rabat, Morocco

Data Analysis, Machine learning Theory, High-performance computing, Collective intelligence

COMPETITIONS

FINALIST AT MOROCCOAI COMPETITION

Nov 2022 - Dec 2022

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