Mariem HSSINI
Junior Data engineer

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EXPERIENCE

CED EUROPE (demo)   Feb. 2023 – Jul. 2024
Intern in Artificial Intelligence   *Charguia I, Tunis*
- Designed and developed a SQL database chatbot using domain-driven design (DDD) with .NET, Entity Framework, and LINQ for quick, accurate responses. Integrated with a FastAPI backend and Azure natural language understanding for seamless communication and response generation.
- Optimized response generation by tuning hyperparameters of the Gemma Large Language Model (LLM) and refining prompt accuracy, using Azure Machine Learning and Databricks datasets. Resulting in a significant improvement achieving a 94% accuracy for response generation.

INFLUENCE   Oct. 2023 – Feb. 2024
Freelancer in Web Development and Artificial Intelligence   *Remote*
- Designed an innovative meeting management platform, collecting datasets for emotion recognition from facial expressions, followed by participant classification. Using Spring Boot for the backend, React.js for the frontend, and YOLO recognition model with 93% accuracy.
- Developed a sophisticated Arabic-speaking chatbot, integrating a backend based on the Rasa platform, accompanied by a speech recognition model enabling voice queries. This solution aims to improve accessibility and efficiency of communications for Arabic-speaking users.

PROXYM GROUP   Sep. 2022 – June 2022
Intern in Artificial Intelligence   *Sousse, Tunisia*
- Developed a virtual agent to optimize the equipment reservation and assistance request process for Proxym employees. By integrating the BERT language model, we implemented natural language processing (NLP) techniques that enable deep contextual understanding, facilitating interpretation of user intents and managing linguistic ambiguities. The solution enhanced user experience by personalizing interactions and significantly reducing response time, ensuring a high satisfaction rate among employees: 78% of bot users reported satisfaction.

DOWOK   Sep. 2021 – June 2021
Intern in Web Development   *Remote*
- Developed a dynamic blogging platform using Angular, Node.js, MongoDB, Express.js, and Git. This platform allows users to explore and share news while facilitating publishing, commenting, and interaction with recent and relevant content. Additionally, it integrates an online payment system for purchasing articles, providing a smooth and engaging user experience.

EDUCATION

National School of Engineers of Carthage   Charguia II, Tunis
Engineer's Degree in Computer Engineering, specializing in data science, Honors   *Sept. 2021 – Oct. 2024*

Higher School of Sciences and Technologies   Hammam Sousse, Sousse
Preparatory Cycle for Engineering Studies, Rank 199/1250   *Sept. 2019 – Jun 2021*

PROJECTS

Predictive Maintenance Using Time Series Analysis   Sept. 2024
Data Engineer
- Developed predictive maintenance solutions using XGBoost to classify hard drives as faulty or normal
- Explored recurrent networks and CNN-LSTM models for time series predictions, improving anomaly detection accuracy by 96%.
- Utilized Docker containers for easy deployment on local servers, enhancing accessibility for stakeholders.

Real-Time Data Streaming   Oct. 2024
Data Engineer
- Developed a scalable data pipeline for efficient data ingestion, processing, and storage.
- Used Apache Airflow for orchestration, Apache Kafka and Zookeeper for real-time streaming, and Apache Spark for processing.
- Integrated Cassandra and PostgreSQL for storage, while containerizing the project with Docker for easy deployment.
- Improved data retrieval speeds and optimized data management efficiency.

SKILLS

Programming Languages: Python, Java, C++, C, JavaScript, TypeScript, PHP
Web Technologies: Angular, React.js, Flask, FastAPI, Node.js, Express.js
Machine Learning & AI: TensorFlow, Keras, PyTorch, Scikit-Learn, Hugging Face, OpenCV
Other Tools: Git, Docker, Kubernetes, Jupyter