Aymen Fkir

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Education

Higher Institute of computer science and Multimedia Gabes , Bachelor in Computer Science   August 2022 - August 2025

Experience

Data Scientist , Deepvolt – Tunis   February 2025 - June 2025

- Engineered a scalable **ETL** pipeline with **Polars** and **EC2**, processing **20+ GB** of Floating Car Data cutting costs by **£40K**.
- Designed a traffic up-scaling model using **stacking ensemble**, achieving $\mathbf{R^2 = 0.9}$ and $\mathbf{MAPE = 0.35}$. Led dataset design and feature engineering.
- Boosted DeepVolt DLIA model $\mathbf{R^2 = 0.75}$ resulting in more than **25%** through advanced traffic-based features. Used **python**,**scikit-learn** and **pandas** .

Data Scientist , Deepvolt – Tunis   June 2024 - September 2024

- Implemented a comprehensive geographic analysis pipeline using **Python** and **GeoPandas** to identify optimal locations for electric vehicle charging stations, covering the entirety of **Istanbul** and enabling data-driven infrastructure planning.
- Orchestrated serverless functions using **AWS Lambda** and **API Gateway** to serve responses from the recommendation system, achieving scalable delivery with an average response time of **2.4 seconds**, supporting real-time decision-making for end users.

Projects

Smart Building Monitoring Project   *Github*

- Composed a sensor-based backend using **ESP32**, **FastAPI**, and **Docker** for real-time building monitoring with less than **1s** response. hosted on **Back4App**.
- Developed a **TensorFlow** model achieving **80%+** accuracy; containerized with **Docker**, deployed to **Hugging Face**, and served via a custom **FastAPI** endpoint.
- Created an **ETL** pipeline using **Python**, **FastAPI**, and **Supabase** to convert sensor data into **BCF** files for a digital twin platform; won **3rd place** at **IEEE IASTAM**.

AI-Powered E-commerce Analytics Dashboard   *Github*

- Established a synthetic data pipeline using **Mockaroo** and enriched it via LLM prompts sent to an **Ollama** server hosted on **Kaggle** (via **Ngrok**); stored **JSON** results in a **Supabase** bucket.
- Developed an **ETL pipeline** with **Python** and **Polars** to load, clean, and analyze enriched data; performed **sentiment analysis**, generated **KPIs**, and stored insights in **PostgreSQL** (**Supabase**).
- Created a dynamic dashboard using **Next.js**, deployed on **Vercel**, to visualize key metrics such as average revenue per shop and top/worst products of the month.

Skills

Programming : Python , Typescript
Cloud & MLOps: EC2 , SageMaker , EMR , Docker , Git
Machine Learning & Data Processing: TensorFlow , PyTorch , NumPy ,Polars , Spark , Hadoop
Databases: PostgreSQL , MySQL
Languages : English ,French,Arabic

Certifications

Disaster Risk Monitoring Using Satellite Imagery : **NVIDIA**
Generative Ai with Diffusion model : **NVIDIA**
Encode Club AI and GPT Bootcamp:**ENCODE CLUB**

Leadership Experience

Chair IAS ENIG SB 2022-2024

- Led 5+ technical workshops on **AI**, **IoT**, and **digital twins**, engaging over than 30 students.
- Managed real-world projects including smart infrastructure monitoring and solar panel classification systems.
- Won **6 out of 10** hackathons, including (iot spark,Dataquest and Eco gardien)
- Secured sponsorship to attend the **IEEE IAS Annual Meeting** in **Nashville, USA**, representing ENIG on the international stage.