Toqa khaled asedah

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PROFILE SUMMARY

AI Engineering student at An-Najah National University, passionate about Machine Learning, Data Engineering, and Back-End Development. Skilled in Python, SQL, and Apache Spark, with experience in developing scalable data pipelines, building AI projects in computer vision and NLP, and designing efficient back-end systems. A fast learner and collaborative team player eager to deliver impactful data-driven solutions

EDUCATION

An-Najah National University B.S. AI Engineering Sep 2022 - Dec 2026

RELEVANT COURSEWORK

Machine Learning & Deep Learning | Natural Language Processing (NLP) | Computer Vision | Data Warehouse & ETL | Big Data Analytics | Database Systems (SQL & NoSQL) | Software Engineering & Back-End Development | Data Structures and Algorithms

PROFESSIONAL EXPERIENCE

AI Intern – ASAL Technologies (Summer 2025):

- Completed a summer internship focused on Artificial Intelligence projects and R&D.
- Contributed to the development of a Sign Language Translation project, including machine learning model training, data preprocessing, and real-time inference.
- Built and integrated back-end APIs using FastAPI and developed responsive front-end interfaces using React.
- Collaborated with a team following Agile methodology to manage sprints and deliverables.
- Strengthened technical skills in Python, FastAPI, React, and gained exposure to Azure DevOps for deployment and project management.

TECHNICAL SKILLS

Python | SQL | C++ | Scala | Assembly | Apache Spark | Hadoop | Kafka | ElasticSearch | MongoDB | MERN Stack | REST APIs | FastAPI | Transfer Learning | CNNs | Transformers | DVC | Information Retrieval | Data Analysis | Problem Solving | n8n | LangChain

PROJECT EXPERIENCE

- **Big Data Twitter Analysis** – Designed a real-time data pipeline for processing, sentiment analysis, and visualization of Twitter data using **Apache Kafka** and **Elasticsearch**.
- **Greenatick Web Application** – Contributed to a full-stack **MERN** web application promoting recycling. Focused on front-end UX and built back-end APIs for key features such as checkout, currency conversion, Wishlist management, order history, and a dynamic footer.
- **Auction Car Price Prediction** – Developed a regression-based machine learning model to predict auction car prices. Improved accuracy through data cleaning and preprocessing and used **DVC** for dataset management and model version control.
- **Automatic Essay Grading with Instruction-Tuned Transformers** – Built an **NLP-based essay grading system** using a 4-bit quantized **Mistral-7B-Instruct** model fine-tuned with **LoRA**. Achieved **74.65% accuracy, F1-score = 0.92, and Pearson correlation = 0.9197**.
- **Waste Classification with MobileNetV2** – Implemented a **CNN classifier** to categorize household waste into 10 classes using **MobileNetV2** with transfer learning, fine-tuning, and data augmentation.
- **Retail Data Warehouse & ETL Pipeline** – Designed and implemented a **Data Warehouse** using a star schema (fact and dimension tables) for a film rental company. Built a complete **ETL pipeline** with Python and SQL to automate data extraction, transformation, and loading, enabling efficient analytical queries.

HOBBIES & INTERESTS

AI & Machine Learning | Problem Solving | Hackathons | Traveling

CERTIFICATIONS

Machine Learning Nanodegree (Udacity) | FastAPI (DataCamp) | SQL Fundamentals (DataCamp) | Python Programming (DataCamp)