

Omar Mohamed

Data Scientist & AI Engineering

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EXPERIENCE

Intern

Uneeq Interns (Remote) | Sep 2024 – Oct 2024

- Created polished visualizations to effectively communicate data analysis results.
- Developed predictive models using machine learning algorithms to support business decisions.
- Improved data collection processes by designing surveys, polls, and other instruments.
- Modeled predictions using advanced feature selection techniques.

Intern

CODSOFT (Remote) | Sep 2024 – Oct 2024

- Collaborated with software engineers to develop and test application procedures for system optimization.
- Enhanced software performance by refining algorithms and streamlining code.
- Designed database schemas to facilitate efficient data storage and retrieval across multiple applications.
- Assessed algorithm performance on benchmark datasets to guide data-driven decisions for project-specific implementations.

Intern

NTI (Onsite) | Jul 2025 – Aug 2025

- Learn everything about bigdata, its framework, downloading OPunto, and dealing with the terminal
- Study more than one frame work in detail, create a special data and system, and experiment with using each of them
- At the end of the scholarship, I created a complete project related to everything that was learned, and I obtained 99% in the special big data scholarship.

Intern

Amit (Onsite) | Jun 2025 – Jul 2025

- Using the Python language to read, understand, and clean data
- Analyzing data, discovering outliers, dealing with it, and converting data to implement a specific model
- More than one thing was made on supervised and unsupervised data, avoiding overfitting and underfitting

Freelance (Big Data Analyst)

Elharefa (Remote) | Jul 2025 – sep 2025

- Work on more than one data and clean it
- Handling customer and give him a final project with excellent rate
- I used my skills to clean and handling data like Python (Programming Language) · Data Loading · Apache Spark · Flask · Data Cleaning · Data Engineering

Mosla Pioneers (Remote) | Feb 2025 – Nov 2025

Team Leader Jul 2025 – Nov 2025

- Developing implementation plans for each month to improve the team's level and progress
- Solve the students' problems and explain how to solve them to help them develop
- Create a complete report on each person's team interaction and work
- Be patient in solving the problem and developing solution methods

Human Resources (HR) Feb 2025 – Jul 2025

- Hiring candidate to different companies
- Organizing work and dealing with employee data in complete confidentiality
- Helping Teamwork to grow and success
- Create a report at the end of each month with the entire month's work via the dashboard

EDUCATION

2022 - 2027

Associate degree, modern academy for engineering, Electrical engineer

SKILLS

Python	Tenserflow	Airflow
Numpy	Research	Teamwork
Pandas	Scikit-learn	Pytorch
Algebra & probability	SQL database	Streamlit
Power Bi	Flask	RAG systems
PySpark	Docker	

Projects

- **BioLens – AI-Powered Biology Learning System**
Technologies: Python, Flask, LangChain, CLIP, ChromaDB, OCR, Three.js, HTML, CSS, JavaScript
 1. Built an AI-assisted educational platform that converts biology textbook images into structured, curriculum-aligned knowledge.
 2. Implemented a Retrieval-Augmented Generation (RAG) system using curated biology textbooks and exam-style Q&A (IGCSE level).

3. Designed a **vision pipeline using CLIP** to identify cellular structures from diagrams without relying on OCR.
4. Integrated **interactive 3D visualization** of biological cells using Three.js.
5. Developed a **source-grounded answering system** with confidence scoring and page-level references to prevent hallucinations.
6. Supported **book upload, chunking, vector storage, and exam-safe retrieval**.

- **Real-Time Stock Price Prediction System**

1. Developed a real-time stock price prediction system using Apache Kafka, Cassandra, and Spark for robust data streaming and processing.
2. Built predictive models and data pipelines in Python.
3. Created an interactive dashboard with Streamlit to visualize stock data and predictions.
4. Containerized the entire system using Docker for seamless deployment.

- **Brain Tumor Detection Application**

1. Developed a full-stack application for automated brain tumor detection from MRI images using a YOLOv8 classification model
2. Built a **Flask API backend** for model inference and a **React frontend** for an interactive user interface.
3. Integrated AI prediction and UI to enable users to upload MRI scans and receive instant diagnostic feedback.

- **Web-Based Movie Suggestion Application**

1. Built a movie recommendation web application using Flask as backend and HTML/CSS/JavaScript for frontend interaction.
2. Integrated a pre-trained recommendation model to suggest movies similar to the user's input.
3. Enhanced UI by fetching and displaying movie posters from TMDB API.

- **VORTEX AI – AI-Powered Decision Intelligence Platform**

1. Architected a scalable SaaS platform combining multi-agent systems and advanced RAG architectures (knowledge-based, schema-aware, decision-support, and conversational RAG) to automate data understanding and business decision support.
2. Implemented automated data profiling, validation, and cleaning workflows adaptable to heterogeneous data sources (CSV, Excel, JSON, structured databases).
3. Designed AI-driven dashboard generation with dynamic KPI discovery and visualization selection, emulating professional BI tools such as Power BI.

4. Designed AI-driven dashboard generation with dynamic KPI discovery and visualization selection, emulating professional BI tools such as Power BI.
5. Delivered an end-to-end solution bridging data engineering, AI reasoning, and business intelligence.