

Moaaz Al-Akel

Data Scientist | AI & Machine Learning Engineer

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Salalah, Sultanate of Oman

PROFESSIONAL SUMMARY

Data scientist and AI engineer with a background in machine learning, computer vision and big data analytics, currently delivering AI and data solutions for two contracting groups in Oman. Comfortable across the whole path from raw operational data to a working, maintained system: model development in TensorFlow and PyTorch, large-scale processing in Spark and Hadoop, and the ERP, database and web engineering that keeps the results in front of the people who need them. Reading for an MSc in Data Science at Cairo University. Native Arabic, professional English.

EDUCATION

Cairo University — Faculty of Graduate Studies for Statistical Research Cairo, Egypt
Master of Science in Data Science — thesis in progress Spring 2026 – Expected 2028

University of Science and Technology at Zewail City 6th of October, Egypt
Bachelor of Science in Communications and Information Engineering Aug. 2016 – Jun. 2023

- **Relevant coursework:** Deep Learning, Computer Vision, NLP, Speech Recognition, Big Data Analytics, Statistical Inference and Data Analysis, Linear and Non-linear Programming (Optimization).

PROFESSIONAL EXPERIENCE

Data Scientist & AI Solutions Developer Jan. 2026 – Present
Salem Mohiyaddin Bin Saif & Bros. Trading & Contracting Co. Salalah, Oman

- Developing AI and data science solutions across a group of twelve companies operating in contracting, trading and quarrying since 1975.
- Maintain and extend the Odoo ERP system, including custom fields, automated actions and module-to-module integrations (Maintenance to Field Service).
- Design the data flows around the ERP and convert operational records into reporting and decision support for management.

Data & AI Developer Jan. 2026 – Present
Al-Hashemi & Al-Rawas Trading & Contracting Co. Salalah, Oman

- Data handling and AI solution development for the group's civil engineering and contracting arm (approx. 1,000 employees).
- Built and maintain the company website, including a bilingual Arabic/English project portfolio editable by non-technical staff.

Freelance Data Analyst 2022 – 2024
Upwork Remote

- Conducted data analysis on large-scale datasets for international clients using Apache Spark and Hadoop.
- Extracted insights from large machine-readable files (e.g. JSON) and delivered actionable recommendations and visualisations.

Computer Vision Intern 2022
University of Science and Technology at Zewail City 6th of October, Egypt

- Developed robust car plate detection models using the YOLO and Detectron2 frameworks.
- Implemented OCR algorithms for accurate car plate number extraction and recognition.

Robotics Coach 2014 – 2015
Cognitive Development Program for Students in Science, Ministry of Education Sultanate of Oman

- Trained and mentored the Dhofar Governorate team for the national robotics competition finals.

PROJECTS

- Sentiment Analysis using Neural Networks** | *Python, TensorFlow, NLTK, pandas* 2022
- Trained LSTM networks on a Kaggle corpus of 1.6M tweets, reaching **83% test accuracy** — above most published results on the same dataset.
 - Benchmarked a Transformer architecture on the same data (80% accuracy) and compared the two approaches.
 - Performed text preprocessing with NLTK and regular expressions; prepared training and test sets with pandas.
- Large-Scale Match Analysis with Spark** | *Big Data: Python, Spark, Hadoop, Tableau* 2021
- Retrieved data on approximately 200,000 matches from the Riot API and processed it with more than 15 map-reduce jobs in Spark.
 - Visualised the results in Tableau and presented the findings to stakeholders; repeated the pipeline on a Goodreads dataset to validate the approach.
- Image Search / Retrieval Engine** | *Computer Vision: OpenCV, scikit-image, Flask* 2022
- Built a web application with two retrieval modes: content-based image retrieval (CBIR) and SIFT descriptor matching.
 - Implemented feature extraction on the server and served the tool through Flask.
- Image Classification with Bag of Words** | *OpenCV, scikit-image, scikit-learn* 2022
- Extracted image features with several models and encoded them as a visual Bag of Words representation.
 - Compared two classifiers on the same pipeline: a Linear Support Vector Classifier and K-Nearest Neighbors.
- UDP and TCP File Transfer System** | *Computer Networks, Python* 2022
- Implemented a client-server file transfer system over both protocols, with packet segmentation, error handling and acknowledgment mechanisms.
 - Made packet size, window size and simulated loss percentage configurable, and validated across small, medium and large files.
- Line Follower and Collision Avoidance Robot** | *Embedded Systems: Arduino, C/C++* 2023
- Designed and built the hardware, then implemented navigation using a 5-element IR array, ultrasonic sensors and encoders driving an H-bridge.

TECHNICAL SKILLS

Languages: Python, C/C++, C#, SQL, MATLAB

Machine Learning & AI: TensorFlow, PyTorch, OpenCV, YOLO, Detectron2, scikit-learn, LSTM, Transformers, SVM, KNN

Big Data & Analytics: Apache Spark, Hadoop, ETL, Tableau, data analysis and visualisation

Libraries: pandas, NumPy, Matplotlib, scikit-image, NLTK

Engineering: Flask, REST APIs, PostgreSQL, Odoo ERP, Git, OOP, data structures and algorithms

Domains: Computer Vision, NLP, Speech Recognition, Statistical Inference, Optimization

Networking: Routing, IPv4/IPv6, wireless router configuration

Languages spoken: Arabic (native), English (professional proficiency)

CERTIFICATES

- Introduction to Data Science** | *Cisco Networking Academy* 2023
- Networking Basics** | *Cisco Networking Academy* 2024
- Introduction to Cybersecurity** | *Cisco Networking Academy* 2024
- Introduction to Python** | *DataCamp* 2025

ACHIEVEMENTS AND ACTIVITIES

- Organizer** 2017 – 2019
Egypt VEX Robotics National Championship Egypt
- Coordinated competing teams and provided technical guidance at national-level robotics competitions.
- Content Creator** 2017 – 2018
Zewail City Science Festival 6th of October, Egypt
- Designed and delivered interactive physics experiments for school students, and built a maze-solving robot to demonstrate applied robotics.