

KARIM OSMANI

Tripoli, Lebanon

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PROFESSIONAL SUMMARY

Data Scientist specialized in machine learning, predictive modeling, and time series analysis. Experienced in transforming large-scale datasets into actionable insights and developing high-performance models using Python and modern ML frameworks. Skilled in feature engineering, statistical analysis, and data preprocessing, with hands-on experience in healthcare analytics. Currently expanding knowledge in model deployment and AI system design to build end-to-end data-driven solutions.

SKILLS

Programming: Python, R, C, C++, Java, C#, SQL

Data Science & AI: Machine Learning, Predictive Modeling, Feature Engineering, Feature Extraction, Time-Series Analysis, Statistical Modeling, Model Evaluation, Exploratory Data Analysis (EDA), Data Processing, Data Cleaning, Natural Language Processing (NLP), Large Language Models (LLMs)

Libraries & Frameworks: Keras, Scikit-learn, TensorFlow, PyTorch, Pandas, NumPy, Matplotlib, Seaborn, NLTK

Data Visualization & Tools: Power BI, Microsoft Excel

Databases & Big Data: MySQL, PostgreSQL, MongoDB, Neo4j, BigQuery

Other Technologies: Git, Linux, XML, HTML, CSS

PROFESSIONAL EXPERIENCE

Data Science Intern | Humantech, Switzerland

Jan 2025 – Jun 2025

- Built an end-to-end predictive modeling pipeline to predict long-term CPAP adherence using healthcare telemonitoring data.
- Conducted exploratory data analysis (EDA) on over 2 million records of healthcare data, identifying patterns, correlations, and class imbalance.
- Developed a data preprocessing pipeline including missing values handling, outlier detection and imputation, normalization, and categorical encoding using Pandas and NumPy.
- Engineered time-series features using TSFEL and domain-driven aggregation for clinical data.
- Developed and implemented a supervised binary classification pipeline, applying feature selection techniques (Pearson and Kendall correlation) to identify key predictors.
- Trained and evaluated machine learning models (Random Forest, LightGBM, CatBoost) using cross-validation and hyperparameter tuning, achieving 87.5% accuracy, F1-score 0.877, ROC-AUC 0.94.

Data Analyst / Data Collector | Lebanese Opinion, Lebanon

Jan 2021 – Jan 2022

- Collected and structured datasets from multiple departments to support business analysis.
- Analyzed raw data to identify patterns and generate insights for management decision-making.
- Organized data into structured reporting formats for operational planning.
- Validated datasets to ensure accuracy, consistency, and reliability.

EDUCATION

Master's Degree in Data Science Saint Joseph University, Lebanon <i>Thesis: Predictive Modeling for CPAP Adherence in Sleep Apnea Patients</i>	2023 – 2025
Bachelor's Degree in Computer Science Lebanese University, Lebanon	2019 – 2022

CERTIFICATIONS

- Python Web Development | Nextways (2023)
- Computer Science Bootcamp | Al Moltaqa NGO (2023)
- Positive Communication: Conflict Management | Saint Joseph University (2017)

LANGUAGES

- Arabic: Native
- English: Professional Working Proficiency
- French: Working Proficiency