

PROFESSIONAL SUMMARY

Data Scientist with 5+ years of experience spanning academic research and real-world machine learning. Originally focused on deep learning for solar forecasting with peer-reviewed results, I now design and deploy end-to-end ML systems using modern tools like Streamlit, Docker, and Transformers. Skilled in time series, model deployment, and building practical solutions from complex data, I combine research-level rigor with industry-ready execution.

SKILLS

- **ML/AI:** Deep Learning (Transformers, LSTMs, ANNs), Time Series Forecasting, NLP, Statistical Modeling, A/B Testing
- **Programming:** Python (Pandas, NumPy, Scikit-Learn, TensorFlow, Keras, XGBoost), SQL (MySQL)
- **MLOps & Deployment:** Docker, Streamlit, Flask, FastAPI, Git, CI/CD, Model Monitoring
- **Visualization:** Matplotlib, Seaborn, Plotly, Dashboards
- **Languages:** Arabic (Native), English (C1), French (B2), Italian (Basic)

PROFESSIONAL EXPERIENCE

Freelance Data Scientist

Jan 2024–Present

Remote

Rome, Italy

- Deployed an XGBoost-powered pricing engine in production, enabling on-demand rental price recommendations in minutes instead of days and generating €50K in annual productivity savings for property managers.
- Designed and engineered 15+ geospatial features from 12,000+ rental listings, increasing pricing model coverage by 30% and enabling property managers to adjust rents 2× faster.
- Increased data reliability from 55% to 95%, saving 20 manual hours/week and boosting pipeline throughput by 40%.
- Built and deployed a Transformer-based solar forecasting pipeline, trained on 10+ years of historical data, improving forecast accuracy by 20% and reducing annual grid misallocation costs by an estimated €200K.
- Built interactive dashboards with FastAPI and Plotly to deliver real-time forecasts, reducing decision lag by more than 50% and enabling better resource planning for energy and property clients.

Stack: Python, Pandas, Scikit-Learn, XGBoost, Streamlit, TensorFlow, Transformers, FastAPI, Plotly, Geopandas, Docker, Git, CI/CD

PhD Researcher – Applied Machine Learning

Jan 2017–Sep 2021

Mohammed V University

Rabat, Morocco

- Led a 4-year solar forecasting research program, developing and optimizing deep learning ANN models in Python and TensorFlow that reduced forecast error (nRMSE) by 15%, improving grid reliability for utility partners.
- Designed and validated ANN-X hybrid models that outperformed statistical baseline models by 13.43%, enabling more accurate capacity planning and reducing reserve requirements by an estimated 5%.
- Automated data ingestion and cleaning pipelines for 10+ years of meteorological data, cutting data preparation time by 30% and accelerating new model testing cycles.
- Authored and presented 2 peer-reviewed papers at 3+ international conferences, translating complex model insights into actionable recommendations for energy system operators.

Stack: Python, Pandas, Plotly, TensorFlow, Scikit-Learn, Statsmodels, SQL, R

Mathematics Teacher

Sep 2017–Aug 2024

Regional Academy for Training and Education

Rabat, Morocco

- Delivered clear, engaging math instruction to 1,120+ students, increasing overall class pass rate from 82% to 92% and earning >90% positive feedback.
- Mentored and coached 5 peer tutors on instructional best practices, leading to a 40% increase in student participation in tutoring sessions and a 25% rise in first-attempt problem-solving success among their tutees.
- Organized and managed lesson plans, reducing the need for remedial review sessions by 30% and ensuring >95% of topics covered on schedule.

EDUCATION & CERTIFICATIONS

Master's Degree in Mathematics and Applications, Statistics, and Numerical Calculation

Sep 2015–Sep 2017

Mohammed V University

Rabat, Morocco

IBM Data Science Specialization

Feb 2025

Credential ID: W85E3XUTYR5X

PUBLICATIONS

- “Artificial Neural Networks for Forecasting Solar Irradiance”, AIP Conf. Proc. (2018)
- “ANN for One-Day-Ahead GHI Forecasting”, SADASC (2018)