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Hamid Ettayyebi

Data Scientist

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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, 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*
Rentelligence AI - GitHub | Blog

- Engineered 15+ features from 12,000+ rental listings across 20+ Italian cities using advanced **geospatial analysis**.
- Reduced data quality issues from 45% to <5% through robust **data cleaning** and **imputation strategies**.
- Deployed production-ready **Streamlit application** with interactive choropleth mapping and real-time price predictions using **XGBoost model**, serving 100+ users and enabling data-driven rental pricing optimization for property managers and tenants.

***Stack**: Python, Pandas, Streamlit, XGBoost, Geopandas, Docker, Git*

GHI Forecasting (Transformer Model) - GitHub | White paper

- Developed novel **multi-head attention Transformer architecture** for solar forecasting using 10+ years of meteorological data, achieving 20.21% improvement over LSTM benchmarks and enabling more accurate renewable energy grid planning.
- Built **interactive dashboard** with real-time forecasting capabilities, allowing energy operators to visualize predicted hours ahead with confidence intervals and integrate forecasts into grid management systems.

***Stack**: Python, TensorFlow, Transformers, Pandas, Plotly, FastAPI, Git*

Research Assistant / Data Scientist **Jan 2017–Sep 2021**
Mohammed V University *Rabat, Morocco*

- Spearheaded solar radiation forecasting research initiative, developing and optimizing **deep learning ANN models** using **Python and TensorFlow** that reduced **nRMSE by 15%** compared to traditional statistical models, enabling more efficient energy grid management.
- Engineered advanced **ANN-X hybrid models** through comprehensive **feature engineering**, **time series analysis**, and **statistical validation**, achieving **13.43% improvement in forecast accuracy** over **ARIMA-GARCH** benchmarks.
- Managed **multi-year meteorological datasets**, implementing automated **data cleaning pipelines** and conducting rigorous **model validation** using cross-validation and hyperparameter tuning techniques.
- **Published two peer-reviewed articles** and presented findings at international conferences, communicating complex technical methodologies to diverse stakeholders.

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

Mathematics Teacher **Sep 2017–Aug 2024**
Regional Academy for Training and Education *Rabat, Morocco*

- Taught mathematics to 1,120+ students while conducting parallel **data science research**.
- Developed strong technical **communication skills** for explaining complex concepts to diverse audiences.

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: W85E3XU7YR5X

PUBLICATIONS

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