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HAMID ETTAYYEBI

Data scientist

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PROFESSIONAL SUMMARY

Data Scientist with a foundation in mathematics, machine learning, and time series forecasting. Proficient in extracting meaningful insights from complex data through clean, interpretable models and interactive tools. Experienced both in research environments and practical applications, with a strong record of translating theories into applications. Enthusiastic about using data-driven solutions with measurable outcomes for challenging problems.

SKILLS

- **Machine Learning:** Deep Learning (ANNs, Transformers, LSTMs), Time Series, Regression Analysis, Feature Engineering
- **Programming:** Python (Pandas, NumPy, Scikit-Learn, TensorFlow, Keras), SQL (MySQL), Git/GitHub, Docker
- **Visualization & Deployment**: Matplotlib, Seaborn, Plotly, Streamlit, Dash, Interactive Dashboards
- **Languages**: Arabic (Native), English (C1), French (B2), Italian (Basic)

TECHNICAL EXPERIENCE

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

- Developed and optimized **ANN models** for daily solar radiation forecasting, reducing **nRMSE by 15%** compared to traditional models, enabling more efficient energy grid management.
- Refined solar radiation forecasting **ANN-X models** by executing advanced **data cleaning**, **feature engineering**, and time series analysis, decreasing the forecast error **nRMSE by 13.43%** compared to **ARIMA-GARCH**, and leading to an optimized strategy for resource allocation in renewable energy systems
- **Published and presented two peer-reviewed articles** on solar radiation forecasting, advancing methodologies in renewable energy predictions.

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

- Created a custom **analytics dashboard** tracking student performance metrics, leading to 20% improvement in scores through **data-driven intervention** strategies.
- Designed scaffolded lesson plans for calculus, using incremental **problem-solving** frameworks and visual aids, reducing student anxiety by 40% and improving exam scores by 25% in 160+ students.

PROJECTS

Rentelligence AI: Predicting Italian Rental Prices **Jan 2025–Apr 2025**
End-to-end project - GitHub | Blog *Rome, Italy*

- Engineered 15+ features from 12,000+ Italian rental listings, reducing data quality issues and **missing values from 45% to <5%** while achieving **8.8% lower MAE** using **XGBoost vs. Ridge Regression.**
- Deployed a **Streamlit app** with choropleth maps and real-time predictions, enabling renters and landlords to optimize pricing strategies using data-driven insights.

Transformer-Based Global Horizontal Irradiance Forecasting **Aug 2024–Jan 2025**
End-to-end project - GitHub | DOI: 10.13140/RG.2.2.36728.15365 *Rome, Italy*

- Inspired by NLP solutions, developed a **Transformer-based model** for solar radiation forecasting that outperformed LSTM benchmarks by 20.21%, with an interactive visualization dashboard enabling real-time operational optimization.

EDUCATION

Master's Degree in Mathematics and Applications, Statistics, and Numerical Calculation **Sep 2015–Sep 2017**
Mohammed V University *Rabat, Morocco*
Awarded the highest score in the Master class.

CERTIFICATIONS

IBM Data Science Specialization **Feb 2025**
Credential ID: W85E3XU7YR5X

PUBLICATIONS

Artificial Neural Networks for Forecasting The 24 Hours Ahead of Global Solar Irradiance **Dec 2018**
Published in AIP Conference Proceedings (2018) – DOI: 10.1063/1.5084983

Artificial Neural Network for Forecasting One Day Ahead of Global Solar Irradiance **May 2018**
Published in Smart Application and Data Analysis for Smart Cities (SADASC'18)– DOI: 10.2139/ssrn.3179472