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HAMID ETTAYYEBI

Data Scientist

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Data Scientist with 4+ years of experience in machine learning, time series forecasting, and statistical modeling. Proven track record of improving forecasting accuracy and optimizing models in the renewable energy sector. Passionate about leveraging AI-driven insights to solve real-world problems, with expertise in deep learning, model fine-tuning, and data storytelling.

SKILLS

Programming Languages: Python(Pandas, NumPy, SciPy, Scikit-Learn, TensorFlow, Keras), SQL(MySQL)
Tools and Platforms Git/GitHub, Airflow, AWS, Docker, CI/CD pipelines, Latex
Machine Learning Deep Learning, Statistical Modeling, Time Series Forecasting, Fine-Tuning, Machine Learning Pipelines
Soft Skills: Data Storytelling, Problem Solving, Critical Thinking, Creativity, Curiosity, Team Player
Languages Arabic (Native), English (C1), French (B2)

TECHNICAL EXPERIENCE

Research Assistant / PhD Candidate (in Data Science) Jan 2017 - Sep 2021
Mohammed V University Rabat, Morocco

- Developed **Artificial Neural Networks** models for daily solar radiation **forecasting**, reducing **Normalized Root Mean Square Error by 15%** compared to traditional models such as **SARIMA, Exponential Smoothing**, allowing more efficient energy grid management and optimized resource allocation for renewable energy systems.
- Optimized model performance** by applying **fine-tuning** and stationarization techniques, leveraging ACF, PACF, and CCF functions.
- 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

- Utilized **performance tracking** and personalized learning techniques to enhance student understanding, leading to a 25% improvement in test scores.
- Applied **data-driven analysis** to evaluate student performance trends, leading to a 20% improvement in personalized learning outcomes.

PROJECTS

Transformer-Based Global Horizontal Irradiance Forecasting Aug 2024 - Jan 2025
Personal project - DOI: 10.13140/RG.2.2.36728.15365 Rome, Italy

- Inspired by NLP problems, developed a novel **Transformer-based model** for Global Horizontal Irradiance (GHI) forecasting, achieving a **20% reduction in Root Mean Squared Error** compared to **LSTM models**, improving solar energy system efficiency by providing more accurate predictions of hourly GHI, allowing better grid management and reducing operational costs.
- Designed and implemented a **multi-head attention mechanism** to eliminate sequential dependencies, enabling **parallel training** and significantly reducing **computational time by 50%** for solar radiation predictions.
- Deployed an **interactive dashboard** using **Dash and Plotly**, enabling real-time visualization and comparison of predictions from Transformer and LSTM models, facilitating user-friendly analysis of forecast metrics, and allowing for the download of prediction data, supporting informed decision-making in solar energy management and grid operations.

EDUCATION

Phd Candidate In Applied Mathematics Statistics and Deep Learning (Incomplete) Jan 2017 - Sep 2021
Mohammed V University

Master's Degree in Mathematics and Applications, Statistics, and Scientific Calculations Sep 2015 - Sep 2017
Mohammed V University
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 Sept Jun 2018 - 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 Sept 2017 - Jun 2018
Published in Smart Application and Data Analysis for Smart Cities (SADASC'18)- DOI: 10.2139/ssrn.3179472