Francisco Rodríguez

Data Scientist | Machine Learning & AI | Data Analytics & Visualization

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Summary

Data Scientist specializing in **Machine Learning** and **Advanced Analytics**, currently based in **Spain (EU Citizen)**. Proficient in **Python, R, and SQL**, with experience in **Power BI** and **Tableau** for building interactive dashboards and data-driven insights. Currently working on **AWS Certification** to expand cloud computing skills. Strong **analytical mindset** with a background in **Physics** and **Mathematics**, an **adaptable communicator**, **fast learner** and **problem-solver** passionate about leveraging data to drive business decisions.

Work Experience

Cabildo of La Palma – Data Scientist **January 2024 – January 2025**

- Developed and optimized **ETL pipelines** to automate data retrieval, enhancing data accessibility and reducing manual intervention.
- **Automated data processing workflows**, **cutting report generation time by ~40%**, improving efficiency for non-technical stakeholders via **Python** through **Jupyter Notebooks** on **ArcGIS Online.**
- Conducted **exploratory data analysis (EDA)** to uncover key insights, trends, and correlations, using **Python (Pandas, NumPy, Seaborn)** and **R (ggplot2, dplyr)**.
- Designed interactive **dashboards** using **Power BI, Tableau, and ArcGIS Online**, tailored to ad-hoc stakeholder requests and specific analytical needs.
- Standardized and integrated historical and current data sources**, correcting inconsistencies** such as typos and formatting differences to **adapt legacy data into the current system**, enabling seamless access to long-term meteorological records.

Relevant Academic Experience

Open University of Catalonia (UOC) – MSc Data Science Thesis **September 2024 – January 2025**

- Collaborated with Filarmonía of Madrid, applying **Machine Learning and Time Series Analysis** for user segmentation and sales prediction based on real audience data.
- Developed and evaluated multiple **ML models** for sales forecasting **(Random Forest, Neural Networks, ARIMA)** and audience segmentation **(K-Means, DBSCAN, RFM analysis)**, improving attendance prediction accuracy.
- Addressed **overfitting issues** by implementing **cross-validation, hyperparameter tuning, and regularization techniques**, improving model generalization.
- Integrated **external factors** (competition, event overlap, seasonality) into **forecasting models**, increasing prediction accuracy by **~15%**.
- Presented findings to non-technical stakeholders, **translating complex data insights** into actionable recommendations for marketing and operations teams.

University of La Laguna (ULL) – BSc Physics Thesis **January 2021 – July 2021**

- **Analysis and parameterization of the intrinsic properties** of an astrophysical instrument **(EMIR at GTC, IAC)**.
- Developed **Python scripts** to process and analyze light intensity values from multiple image files, identifying key properties such as linearity, gain, and sensor drift under different conditions.
- Generated technical documentation and scientific reports following academic standards, using **LaTeX** for structured and reproducible formatting.

Freelance – Tutor **September 2017 – July 2018**

- Provided personalized tutoring in **physics, mathematics, and chemistry**, adapting lessons to different learning styles and academic levels.
- Developed **strong communication** and **mentoring skills**, explaining technical subjects to non-expert audiences through customized exercises and real-world examples.

Education

Open University of Catalonia (UOC) – MSc in Data Science and Big Data **January 2025**

University of La Laguna (ULL) – BSc in Physics **July 2021**

Skills

Programming: Python (NumPy, Pandas, Statsmodels, Scikit-Learn, TensorFlow, Seaborn) | R (dplyr, ggplot2) | SQL
Data & Cloud Tools: Power BI | Tableau | Docker | Airflow | Excel | AWS (in progress)
Machine Learning & AI: Time Series Forecasting | Clustering | Supervised & Unsupervised Learning | Deep Learning
Languages: Spanish (Native) | English (Fluent)