Mariana Vivas

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WORK EXPERIENCE

European Organization for Nuclear Research (CERN)   Geneva, Switzerland
Associated Scientist   Sept 2023 - Present

- Facilitate open science initiatives at CERN by disseminating ATLAS experiment data to academic communities, from high schools to universities.
- Produce clear and accessible documentation of ATLAS data for educational purposes, enabling engagement and understanding among students and educators alike.
- Craft tailored content for future research endeavors not currently pursued at CERN, providing a valuable resource for Masters and PhD candidates conducting novel studies.

Integra International Services   Remote
Data Scientist   Feb 2023 - Sep 2013

- Formulate and sustain tax risk and default prediction models for municipal management in San Salvador.
- Perform in-depth analysis of real estate tax rates using models to uncover anomalies or fraud.
- Apply data mining and machine learning for comprehensive large-scale data analysis and insights.

Henry   Remote
Teaching Assistant for Data Science   Oct 2022 - Jan 2023

- Coordinated 15 students and reached the integration of 80% of the group using group integration techniques.

PROJECTS

Seismic alert system   Nov 2022 - Dec 2022

Unified the seismic data from three countries into a relational database and developed an unsupervised machine learning clustering model to predict the threat level of earthquakes, improving data accessibility and enhancing the effectiveness of the seismic alert system.

Tools: Python, scikit-learn, pandas, numpy, matplotlib, seaborn, geopy, streamlit, AWS, airflow, docker, GitHub.

Search for new physics using machine learning techniques in multi-jet events   Jan 2021 - Oct 2022

Benchmarked 8 machine learning models for their use in anomaly detection in Physics and conducted a thorough investigation into their reproducibility in the field and developed a Python package for managing simulated data from LHC collisions, increasing accessibility and facilitating future research by streamlining data management.

Tools: Python, scikit-learn, pandas, tensorflow, matplotlib, seaborn, jupyter notebook, jupyter book, GitHub.

EDUCATION

Henry   Remote
Data Science Bootcamp.   Aug 2022 - Dec 2022

Central University of Venezuela   Caracas, Venezuela
Bachelor's Degree in Physics, *Cum Laude* (GPA: 3.5)   Oct 2015 - Dec 2022

COLLABORATION EXPERIENCE

The Turing Way   Remote
Book Dash Participant   May 2021

- Successfully added a chapter to a book, improving the reading experience for an estimated 9500 users/month.
- Contributed to a team effort in writing a comprehensive chapter, *The Guide for Project Design*: Overview of Project Design, which covered 5 key aspects of project design.

CERTIFICATIONS

- **Certifications**: Data Scientist from Henry; Neo4j Graph Data Science

LANGUAGES

English Proeficient | **Spanish** Native | **French** Basic