

# Mariana Vivas

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## SUMMARY

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As a physicist in data science, I am able to understand complex data using my knowledge in mathematics and modeling. My final degree project honed my skills in using machine learning and data engineering techniques to make valuable discoveries. I am eager to apply my expertise to make a positive impact using data.

## EDUCATION

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### Henry

Data Science Bootcamp.

Remote

Aug 2022 - Dec 2022

### Central University of Venezuela

Caracas, Venezuela

Bachelor's Degree in Physics, *Cum Laude*.

Oct 2015 - Dec 2022

## SKILLS

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**Python** Data manipulation, cleaning, and transformation using pandas and numpy. Data visualization and analysis using matplotlib and seaborn. Machine learning using TensorFlow and scikit-learn.

**MySQL** Experience in creating and normalizing relational databases, cleaning and optimizing performance, and writing complex queries for data extraction and manipulation. Skilled with MySQL Workbench.

**Other skills and tools:** Docker, PowerBI, Jupyter Notebooks, Latex, Markdown, Anaconda, GitHub, Linux.

## PROJECTS

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### Seismic alert system

Nov 2022 - Dec 2022

Developed a database of seismic data from multiple countries and created an unsupervised machine learning model for threat level clustering and for a seismic alert system, improving data accessibility and analysis.

**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 machine learning anomaly detection models in the search for new physics and investigated the reproducibility of these techniques for high-energy physics. Developed a [python package](#) for managing simulated data from LHC collisions, making the work accessible for future research.

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

## WORK EXPERIENCE

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### Henry

Remote

Teaching Assistant for Data Science

Oct 2022 - Jan 2023

- Coordinated a group of 15 students to help during their time in the course.
- Achieved a successful completion of the course for 74% of the students and the integration amongst the group.
- Used group-integration techniques and aid in the solution of programming exercises in python and MySQL.

## VOLUNTEERING EXPERIENCE

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### The Turing Way

Remote

Book Dash Participant

Oct 2022 - Jan 2023

- Found the opportunity to add a chapter in the book that would optimize the reading experience for the users.
- Worked collaboratively to write a chapter on *The Guide for Project Design: [Overview of Project Design](#)*.

## LANGUAGES

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