# MARÍA FERNANDA VILLALBA



## CONTACT

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**GitHub**
github.com/fer

**LinkedIn**
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## PERSONAL

**Date of birth**
14/03/1997

**Nationality**
Colombian

## LANGUAGES

**Spanish**
Native

**English**
Level C1
Cambridge Test

**French**
Level B2
Alliance Française

## PROFILE

Advanced student pursuing a dual degree in Data Science and Physics. Passionate about scientific research, computational physics, and atmospheric sciences. Dedicated to applying geospatial analysis and rigorous mathematical modeling to solve environmental problems.

## ACADEMIC BACKGROUND

**Ongoing** — **Universidad de Buenos Aires**
Bachelor of Data Science (4th year)
Bachelor of Physical Sciences (3rd year)

**Completed** — **Coursera**
Google Data Analytics Certificates

## PROJECTS

**Glacier Retreat Geospatial Analysis**
*Python, Rasterio, GeoPandas, Sentinel-2*
Developed a pipeline to process satellite imagery using NDSI indices and matrix algebra to quantify ice loss.

**Volcanic Ash Stochastic Simulation (In Progress)**
*Python, Lagrangian Modeling, NumPy*
Building a 2D simulation using Monte Carlo methods and Brownian motion to model particle dispersion under stochastic wind and turbulence conditions.

## SKILLS

**Prog.** — Python (Pandas, NumPy, Matplotlib, Scikit-learn, Rasterio, GeoPandas), SQL.

**Tools** — Jupyter Notebooks, Tableau, Excel, Overleaf/LaTeX, Git.

**Math** — Advanced Calculus, Linear Algebra, Probability & Stats.

## RELEVANT EXPERIENCE

**2025-Pres.** — **Freelance Private Tutor**
Delivered personalized lessons on Python for Data Science, covering data cleaning, algorithms (e.g., K-Means), and programming logic for technical students.

**2023** — **Vocational Guidance Office (FCEN- UBA)**
Tutor in the "Más Acompañamiento" program aimed at new students, providing guidance on university resources.

**2018-23** — **Tecnópolis (Ministry of Science & Technology).**
Exhibition Guide in charge of communicating scientific concepts to diverse audiences to stimulate interest in the field.