Florencia Emilia Gomez Osuna

Currículum Vitae

Contact Information

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Professional Summary

I am an **Advanced Biology student** (graduating in 2025) with a strong foundation in microbiology, environmental chemistry, and data science. Skilled in data visualization, statistical analysis, and machine learning. Currently a **Research Intern** at the **Northeast High-Performance Computing Center**, where I apply advanced machine learning techniques to process large-scale satellite imagery for climate modeling and agricultural yield prediction. I specialize in the use of **Sentinel 1** and **Sentinel 2** images, conducting multispectral analysis over time to derive actionable insights. This experience has enhanced my proficiency in **neural network training**, **geospatial data management**, and **data engineering**.

My expertise and passion for cutting-edge technology and innovation drive my commitment to solving contemporary global challenges. I am mainly focused on applying **artificial intelligence** in **climate modeling** and **predictive analytics**, and I am dedicated to continuously expanding my knowledge in these fields.

Fluent in **English (C2)** and proficient in **German (A2)**.

Education

- **Bachelor's Degree in Biology (Environmental Sciences)** | University of Buenos Aires | 2013 - 2025 (expected)

- **Certificate in Advanced Water, Soil, and Air Treatment** | Polo de Educación Superior de Escobar | 2023

- **Certificate in Environmental, Energy, and Circular Economy Management |** Instituto Argentino de Normalización y Certificación (IRAM) | 2024

- **Certificate in Data Analysis** | IBM SkillsBuild - Guayerd | 2024

Professional Experience

Research Intern

Northeast High-Performance Computing Center, National University of the Northeast | 2024 - Present

- Processed large datasets using satellite imagery and machine learning models.

- Developed climate prediction algorithms to enhance agricultural forecasting.

- Applied neural networks for climate data analysis and pattern recognition.

Academic Tutor - Inorganic Chemistry I

Faculty of Exact and Natural Sciences, University of Buenos Aires | 2023 - Present

- Provided academic support and guidance to undergraduate students in inorganic chemistry.

- Designed and evaluated laboratory experiments to reinforce theoretical concepts.

Virtual Research Assistant & Data Analyst

Institute of Development Studies, University of Sussex | 2022 - 2023

- Conducted statistical analysis on socioeconomic datasets.

- Assisted in data visualization and report preparation for research publications.

Research Assistant & Co-Author (Nanoparticles Project)

Institute of Environmental Engineering Research (3iA), National University of San Martin | 2019 - 2022

- Investigated the use of Fe-based nanoparticles for water purification.

- Published research findings in peer-reviewed journals.

Science Communicator & Educational Guide

Ministry of Science and Innovations - Tecnópolis Argentina | 2016 - 2018

- Designed interactive educational activities to promote STEM awareness.

- Delivered science workshops for children and general audiences.

Publications & Conferences

- **Journal Article:** "Removal of Uranyl (U VI) in Water Using Composites Based on Supported Fe Nanoparticles (FeNPs)." DOI:10.1002/cjce.25236

- **Conference Speaker:** Argentine Congress of the Society of Toxicology and Environmental Chemistry (SETAC), 2022. Presented research on nanoparticle-based water treatment.

Technical Skills

- **Programming & Data Analysis:** RStudio, Python, SQL

- **Machine Learning & Deep Learning:** PyTorch, neural networks, predictive modeling

- **Geospatial & Climate Data Processing:** Machine learning, neural networks, satellite image analysis

- **Data Visualization:** Matplotlib, Power BI

- **Software & Tools:** ArcGIS, QGIS, Jupyter Notebook, Visual Studio Code

- **ISO Standards & Environmental Management:** ISO 14001, ISO 9001

Languages

- **Spanish:** Native
- **English:** C2 (Fluent)
- **German:** A2 (Basic)

Hobbies & Interests

- Climate change research
- Data science for sustainability
- Scientific communication & outreach
- Hiking & outdoor activities