

MSc. in Geo Data Science & Geoinformatics (ongoing), BSc. in Geosciences

Current Location Strasbourg, France (Availability to relocate)
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I am a Colombian Geoscientist with dual master's degrees in Geoinformatics and Geo Data Science, focused on advanced Remote Sensing (RS) and Artificial Intelligence (AI) for applications such as crisis management, environmental monitoring, and geospatial decision-making. I am skilled in Python, creating deep learning models for semantic segmentation, object detection, and time series analysis from satellite imagery. My extensive experience with Geographic Information Systems (GIS), particularly ArcGIS products, supports my capabilities in spatial analysis, mapping, and data analytics. Additionally, I have provided high-level technical support in English and Spanish, enhancing my soft skills to meet delivery deadlines and help customers effectively. With a strong background in programming, RS, spatial data analysis, and GIS, I have the ability to adapt to diverse projects and industries.

Education

Sep 2022 – Present
(Expected Graduation July 2024)

Copernicus Master in Digital Earth - Double Degree

1. MSc. in Geo Data Science

Université Bretagne Sud – Vannes, France

- **Key Courses:** Artificial Intelligence | Computer Vision | Big Data
- **Projects:** [Mapping Kelp Canopy based on Landsat satellite imagery](#) | [Crop classification using time-series deep learning models](#)

2. MSc. in Geoinformatics & Earth Observation

Paris Lodron University – Salzburg, Austria

GPA: 1.00 (max score)

- **Key Courses:** Advanced Remote Sensing (Optical, SAR, LiDAR, Hyperspectral) | Spatial Statistics
- **Projects:** [Coastline change in Port Beach \(Western Australia\) from 1988 to 2022 with Australian Open Data Cube](#) | [Solar Power Estimation in Sint Laurens Village \(Netherlands\)](#)

Jan 2014 – Nov 2018

BSc. in Geosciences

Universidad De Los Andes – Bogotá, Colombia

GPA: 4.42/5.00 (Ranked in top 10%)

- **Key Courses:** Object Oriented Programming | Modelling and Numerical Analysis | Seismic & Seismology

Work History

Mar 2024 – Present

Remote Sensing & AI Intern

SERTIT – Strasbourg, France

- Internship related to my master's thesis project. My primary goal is to create a robust supervised semantic segmentation model using Very High-Resolution (VHR) satellite imagery (SPOT-6&7, Pléiades-1A&1B, WorldView-2 and GeoEye-1) to delineate burned areas for crisis management.
- This task involves exploring and comparing CNN-based architectures such as Unet and Vision Transformer architectures like Segformer.
- This product is being developed and optimized using Pytorch Lightning Framework and Wandb for experiment tracking and tuning.

Mar 2023 – Jul 2023

Remote Sensing and GIS Intern

Spatial Services – Salzburg, Austria

- Contributed to extracting dwellings in refugee camps using high-resolution and VHR satellite images with deep learning methods such as Mask R-CNN and Segment Anything by Meta AI. This helped Médecins Sans Frontières (MSF) to coordinate and respond more effectively to emergencies on the ground.
- Developed Geoprocessing Tools with ArcPy for Data Management.

Mar 2023 – Jul 2023

Remote Sensing and GIS Intern

Termatics – Salzburg, Austria

- Supported the processing of ECOSTRESS and Landsat thermal data to monitor changes and analyze trends between 2018 and 2022 in Land Surface Temperature. This was done for the regions of Salzburg, Linz, and Graz in Austria.
- Collaborated in the creation of a [Web Application](#) in Open Layers for the visualization of the processed data.

Mar 2019 – Jul 2022	Esri International Support Analyst Tier 1 & Tier 2 <i>Esri Colombia – Bogotá, Colombia</i> <ul style="list-style-type: none"> • Provided high-quality technical support in English to Esri's global clients and employees through effective communication and troubleshooting. • Resolved over 800 technical issues related to ArcGIS Desktop, ArcGIS Pro, ArcGIS Online, mobile applications (ArcGIS Field Maps, ArcGIS Collector, ArcGIS Survey123, ArcGIS Navigator, etc.). • Assisted the Alabama Forestry Commission in more than 50 cases regarding the creation and troubleshooting of Field/Web Applications implemented to have a timely response to natural disasters (e.g., Hurricane Michael) and to invasive species (e.g., Cogongrass).
Nov 2018 – Mar 2019	Junior Geologist <i>Neoil Exploration – Bogotá, Colombia</i> <ul style="list-style-type: none"> • Contributed to the creation of the Colombian Seismic Atlas, which integrated the geographic, geological, stratigraphic, and seismic data of the Catatumbo, Upper Magdalena, Lower Magdalena, and Cauca Patía basins of Colombia. • Performed quality assessment of the study area wells and seismic data provided by Colombia's National Hydrocarbons Agency (ANH). • Compiled and administered all the qualified data in the geodatabases of the company.

Certifications

Oct 2021 – No Expiration Date	ArcGIS Desktop Associate 19-001 & ArcGIS Pro Foundation 2101 Issued by Esri
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Honors and Awards

July 2023	Special Achievement in Digital Earth Award <i>Paris Lodron University – Salzburg, Austria</i> Based on excellent scientific and business contributions in the domains of Earth Observation and Geoinformatics.
Sep 2022 – Present	Erasmus Mundus Joint Master fully funded Scholarship <i>European Union</i>
Oct 2018	Academic Excellence Distinction <i>Universidad de Los Andes – Bogotá, Colombia</i> Highest overall GPA in the Geosciences program for the first semester of 2018.
Mar 2021 – Sep 2018	Undergraduate thesis Project with honors– Nominated to Otto de Greiff Award <i>Universidad de Los Andes – Bogotá, Colombia</i> Thesis project: “Petrography of the Doña Juana Volcanic Complex (DJVC) basement: implications in the Quaternary magmatism”. Advisor: Natalia Pardo Villaveces, PhD. Co-Advisor: Ana Ibis Despaigne, PhD.
Jan 2014 – Oct 2018	Undergraduate scholarship: "Quiero Estudiar Escala" <i>Universidad de Los Andes – Bogotá, Colombia</i> Undergraduate Academic excellence scholarship

Languages

Spanish	Native <div></div>
English - TOEFL iBT 103/120	Very Good (C1) <div></div>

Skills

<ul style="list-style-type: none"> • Main Python packages: Pytorch, Pytorch Lightning, Wandb, Scikit-Learn, Numpy, Pandas, Rasterio, Xarray, GDAL, Matplotlib, Seaborn, Vega-lite • GIS: ArcGIS (Desktop, Online and Enterprise), QGIS, and PCI Geomatica • Earth Observation: eCognition, Google Earth Engine • Databases: Microsoft SQL Server and PostgreSQL
