Guillermo Romero

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EDUCATION

Master of Environmental Data Science, 3.76 GPA (Expected June 2023)
Bren School of Environmental Science & Management – University of California, Santa Barbara (UCSB)
Highlighted Coursework: Machine Learning in Environmental Science, Databases and Data Management, Modeling Environmental Systems, Statistics for Environmental Data Science (All completed by June 2023)

Bachelor of Arts in Geography, 3.52 GPA (June 2022)
Bachelor of Science in Earth Science, 3.52 GPA (June 2022)
University of California, Santa Barbara (UCSB)
Honors/Awards: UCSB Scholarship, Outstanding Achievement in the Geography Major
Highlighted Coursework: Advanced Remote Sensing, Ocean Remote Sensing, Technical GIS, Field Studies in Geological Methods, Field Hydrology, Introduction to Climate Modeling

SKILLS

Languages: Spanish, R (Tidyverse), Python (Pandas, SciPy), Markdown, SQL, MATLAB
Environments: RStudio, Quarto, ArcGIS Pro, QGIS, GitHub, Google Earth Engine, Jupyter Notebook
Technical: Data Visualization, Machine Learning, Technical Writing of Environmental Field Work

Master's Capstone Project - Informing Forest Conservation Regulations in Paraguay (1/22–Present)

Client: Paraguay National Forest Institute; Dr. Robert Heilmayr | Role: Machine Learning Engineer

- Utilized geospatial overlays to assess the compliance of property owners' execution of approved land use plans (LUPs) and calculate land use types and percent of clearing.
- Created a law-based simulation tool in R to evaluate the effects of current and alternate laws on conserved forest area in the undeveloped Chaco region.
- Trained a convolutional neural network in Python to predict future deforestation patterns based on historic deforestation patterns and forestry laws.

GEOSPATIAL & DATA SCIENCE PROJECTS

Burn Severity with Sentinel-2 data using Google Earth Engine | Working with Environmental Data (12/22)

- Burn severity analysis of the August Complex Fire using Sentinel-2 Image Collection and MTBS Feature Collection.
- Utilized Google Earth Engine and Python to process and visualize the difference normalized burn ratio (DNBR) by severity class.
- Leveraged the GEE platform to process and analyze large-scale satellite data efficiently and effectively.

Statistical Analysis of NDVI in Redlined Regions | Statistics for Environmental Data Science (11/22)

- Conducted data wrangling and exploratory data analysis (EDA) using tidy format in R.
- Conducted statistical analysis of NDVI data in redlined regions using Log-Log Ordinary Least Squares Regression and hypothesis testing to draw informed conclusions on non-linear relationships.
- Interpreted regression coefficients to understand the impact of individual variables on overall outcome.

Analyzing Greenness through NDVI in Redlined areas in Philadelphia, PA | Undergraduate Thesis (4/22–6/22)

- Pre-process Landsat 8 OLI satellite data using RStudio to crop, mask, reclassify, and NDVI calculation.
- Conducted QGIS processing to calculate NDVI, zonal statistics, and write memory function.
- Integrated census median income data, NDVI data, and Redline data through QGIS and Excel.

LOGISTICS EXPERIENCE

General Warehouse Worker – Best Buy, Los Angeles, CA (9/18/-9/21)
SWAT Inventory Specialist – Best Buy, Los Angeles, CA (5/2010 – 11/2015)