

Bruno Lopez



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[Linkedin](#)



[Website](#)

SKILLS

Python (Numpy, Pandas, sci-kit-learn, Tensorflow, BeautifulSoup), **R** (dplyr, tidyr ggplot, caret), **Machine Learning** (Random Forest, SVM, Regression, PCA), **Deep Learning** (Object Detection, Image Classification), **Statistical Analysis**, **Data Visualization**, **Data Pipeline Automation**, **Data Cleaning**, **Web Scraping**, **SQL**, **Data Mining**, **GIS**, **Linux**, **Git & Version Control**. **Google Earth Engine**, **Geospatial Data Science**, **Mentorship**,

EXPERIENCE

ENERGY DATA ANALYST

Fremont, CA

Tesla

May 2023 - Present

- Conducted in-depth analysis of time-series data across numerous commercial solar sites, proactively uncovering and addressing critical issues, which resulted in saving the company several million dollars in potential costs.
- Developed machine learning tools to identify soiling/snow on solar panels + PV system issues..
- Created comprehensive dashboards for visualizing solar PV issues, contract renewals, and data trends; revamped inefficient company websites using Streamlit.
- Engineered Python-based automation tools, transitioning multiple teams from Excel, resulting in significant efficiency gains.
- Mentored two Master's degree students in data science and machine learning, with a focus on solar energy analytics.

REMOTE SENSING DATA SCIENTIST

San Francisco, CA

Orbital Sidekick

Jan 2022 - Dec 2022

- I built data pipelines for object detection/classification, change detection, and atmospheric correction.
- Contributed to multiple machine learning projects including crop/forest speciation, fire change detection, time-series vegetation analysis, mineral mapping, and creating internal python modules for company use.
- Implemented object-oriented programming principles in data pipelines for increased reusability and efficiency.
- Led geospatial machine learning initiatives: From constructing datasets from the ground up to overseeing the full analysis cycle, including testing and validation, ensuring comprehensive and precise project execution and results.
- Mentored a Master's student in geospatial machine learning, guiding his projects and enhancing practical skills.

RESEARCH DATA ANALYST

Stanford, CA

Stanford University (Center on Food Security & The Environment)

January 2021 - January 2022

- Contributed to multiple machine learning projects from start to finish which included identifying crop fields in Africa, object detection of houses, and analyzing soil characteristics from web-scraped data.
- [Co-authored a paper](#) that used causal forests to prove the ineffectiveness of cover crops in the U.S.
- Developed automated tools for data extraction, analysis, dashboard creation, and report generation.
- Designed and implemented data pipelines for students improving their algorithm speed 2-10 times.
- Curated geospatial datasets for students for tasks such as object detection and image classification.

EDUCATION

University of California, Santa Cruz

Graduated June 2020

Bachelor of Science in Earth Science (Data Analytics Concentration)) w/ Honors

GPA 3.48

Honors Thesis: "Assessing Long-Term Changes in Sea Surface Temperature Extremes".

Relevant Coursework: Programming Abstractions: Python, Data Analysis in the Environmental Sciences, Advanced GIS, Statistics, and Data Analysis in the Geosciences, Scientific Computing, Data Visualization.