# Gabrielle Smith

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## EDUCATION

**Master of Environmental Data Science**, 4.00 GPA (June 2023)
**Bren School of Environmental Science & Management – University of California, Santa Barbara (UCSB)**
Highlighted Coursework: Geospatial Analysis & Remote Sensing, Machine Learning for Environmental Science, Statistics for Environmental Data Science, Data Visualization & Communication

**Bachelor of Science in Statistics & Data Science**, 3.77 GPA (March 2022)
**University of California, Santa Barbara (UCSB)**
Honors/Awards: Dean's Honors (6 quarters), College of Letters and Science Honors

## PROFESSIONAL EXPERIENCE

**Geospatial Data Engineer – Climate Engine**, Remote (11/23–03/25)
- Developed workflows to ingest, transform and catalog geospatial data across various spatial resolutions and temporal frequencies for applications including extreme events, wildfire, flooding, and biodiversity
- Managed cloud-native workflows to process geospatial data formats (GeoTIFF, COG, ZARR, NetCDF, GeoJSON) at scale, leveraging BigQuery to support high-volume spatial querying and integration
- Collaborated with engineering teams to standardize workflows and improve geospatial tooling with Python, GitHub, and containerized environments for scalable deployment and long-term maintainability

## PROJECTS

**Leveraging Geospatial & AI for Biodiversity Finance**
Role: Data Engineer | Partner: Robeco | Climate Engine (06/24-09/24)
- Built automated pipelines to extract and process over 100 company annual reports, facilitating scalable ingestion of unstructured documents and downstream asset identification for biodiversity risk analyses
- Designed and deployed an AI-driven extraction workflow using the Gemini API to parse asset details, identifying 1,661 mining sites with >80% validation accuracy for mine name recognition
- Developed geolocation workflows via Google Maps API and open-source data, enabling the spatial mapping of mines against biodiversity datasets to assess exposure and inform investment strategies; see whitepaper

**Measuring Agricultural Adaptation to Climate Change in Zambia Using Satellite Imagery & Machine Learning**
Role: Project Manager | Client: Tamma Carleton | Master's Capstone Project (09/22-06/23)
- Engineered and implemented machine learning algorithms using PyTorch, employing random convolutional features to extract and analyze high-dimensional data from extensive satellite imagery across Zambia
- Applied sophisticated statistical methods including bootstrapping and cross-validated ridge regression via scikit-learn, resulting in successful prediction of 28 agricultural variables
- Delivered compelling visualizations and presentations, translating complex data into client-friendly insights

## TECHNICAL SKILLS

**Languages:** Python, R, Git, SQL | **Cloud**: BigQuery, Earth Engine, Google Cloud Platform
**Tools:** Git, GitHub, Jupyter, RStudio, PyCharm, QGIS | **AI/APIs:** OpenAI, Gemini, Google Maps

## ADDITIONAL EXPERIENCE

**Undergraduate Teaching Assistant** - *UCSB, Department of Environmental Studies: Collecting, Coding & Exploring Water Data (09/22-12/22); Critical Thinking & Evidence Based Reasoning for the Environment (04/23-06/23)*
**Research Assistant** - *Koegel Autism Center, UCSB, Santa Barbara, CA (09/18-09/22)*
**CCAMPIS Evaluation Coordinator** - *UCSB Early Childhood Care and Education Services (10/22-09/22)*
**Guest Lecturer** - *"Introduction to R: Data Wrangling," University of California, Santa Barbara (04/27/2023)*
**Volunteer** - *GIVE Volunteers, Mueang Kong, Thailand* (08/19)