

# Narjes Mathlouthi

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## RESEARCH INTEREST

I'm interested in developing innovative geospatial and statistical approaches to advance food security, climate resilience, and sustainable resource management. My research integrates Earth observation, remote sensing, and machine learning with socioeconomic analysis to tackle complex environmental and agricultural challenges, particularly in data-scarce regions such as Sub-Saharan Africa.

## EXPERIENCE

### Planet Archive Intern 🌐

Office of Research, UCSB

June 2024 – January 2025

Santa Barbara, CA (Remote)

- Architected and deployed end-to-end PlanetScope imagery pipelines for UCSB Natural Reserve Sites, enabling streamlined data ingestion.
- Developed and maintained a comprehensive codebase and user documentation to support scalable harvesting workflows.
- Designed and prototyped a Redis and Celery task-scheduling workflow to enable future automated, continuous imagery collection.

### Machine Learning Intern 🌐

National Energy Technology Laboratory (NETL)

June 2023 – August 2023

Albany, OR

- Developed Bayesian-optimized ML models to predict the coefficient of thermal expansion in high-temperature alloys.
- Curated and preprocessed a comprehensive alloy dataset for model training and validation.
- Presented results and technical recommendations to Department of Energy experts.

### Conservation Analysis Intern 🌐

Conservation International

June 2022 – August 2022

Santa Barbara, CA

- Conducted cost-benefit analysis for Fiji's tuna industry improvement projects
- Designed a schematic to map the tuna supply chain
- Developed an evaluation framework to measure project impact

### Grants Officer 🌐

Global Fund for Women

November 2020 – October 2021

San Francisco, CA

- Managed over 350 international grants, enhancing compliance and workflow
- Co-designed Salesforce app for mass communications with grantees and donors
- Led implementation of best practices in grantmaking and safeguarding

### Grants Coordinator 🌐

Global Fund for Women

August 2018 – November 2020

San Francisco, CA

- Built and maintained dashboards and reports for proposal tracking
- Ensured data integrity by optimizing Salesforce workflows
- Liaised with program teams and donors to support strategic funding

## EDUCATION

### University of California, Santa Barbara

Ph.D. in Geography

Expected June 2028

Santa Barbara, CA

- Graduate-level research in remote sensing, spatial statistics, and climate-agriculture interactions

### University of California, Santa Barbara

M.S. in Probability and Statistics

Expected June 2024

Santa Barbara, CA

- Coursework: Measure Theory, Stochastic Processes, Advanced Statistical Modeling

### Bren School, University of California, Santa Barbara

Master of Environmental Science and Management (M.E.S.M.)

June 2023

Santa Barbara, CA

- Group Project: Developed a Sustainability Index for the South Pacific Tuna Fishery

### University of California, Berkeley

B.S. in Environmental Economics & Policy

December 2016


Berkeley, CA

- Undergraduate coursework in economics, public policy, and environmental management



SKILLS

- **Programming Languages:** Python, R, C, JavaScript, SQL
- **Web Technologies:** HTML, CSS, Quarto, WordPress, GitHub Pages
- **Database Systems:** BigQuery, PostgreSQL, SQLite
- **Data Science & Machine Learning:** scikit-learn, pandas, NumPy, TensorFlow, Keras, caret
- **Cloud Technologies:** Google Cloud Platform (GCS, BigQuery, Dataflow)
- **DevOps & Version Control:** Git, GitHub, Redis, Celery, Bash
- **Specialized Area:** Remote Sensing, GIS, NDVI Analysis, Spatial Econometrics
- **Mathematical & Statistical Tools:** LaTeX, Quarto, Stata, RStudio, Jupyter
- **Other Tools & Technologies:** ArcGIS, QGIS, Canvas, Zoom, Box
- **Research Skills:** Time Series Modeling, Causal Inference, Survey Design, Statistical Programming, Data Visualization, Report Writing

LEADERSHIP EXPERIENCE

- **UCGIS Week Program Coordinator** June 2023 – November 2024  
*University Consortium for Geographic Information Science (UCGIS)* 
  - Spearheaded coordination and planning of the UCGIS Week annual program
  - Led content review, keynote and panelist invitations, and event promotion strategy
  - Ensured smooth execution of virtual logistics and managed online engagement

VOLUNTEER EXPERIENCE

- **Marketing Analyst Volunteer** June 2021 – August 2021  
*Women4Good, San Francisco, CA* 
  - Increased IGNITE National’s Instagram daily engagement from 2.5% to 5% through A/B testing
  - Conducted historical analysis of Instagram engagement data using Python
  - Advised the communications team with recommendations for a marketing campaign to promote IGNITE’s fellowship program
- **Data Defender Volunteer** July 2020 – June 2021  
*Museum of African Diaspora (MoAD), San Francisco, CA* 
  - Maintained and cleaned the museum database, ensuring accurate entry of membership records
  - Collected and designed surveys to re-engage inactive donors and members
  - Upheld data privacy practices in handling user and donor information

PROFESSIONAL MEMBERSHIPS

- **American Statistical Association**, Active Member Expires: April 2026

CERTIFICATIONS

- **NASA ARSET: Drought Monitoring, Prediction, and Projection using NASA Earth System Data** August 2024
- **NASA ARSET: Applications of Carbon Dioxide Measurements for Climate-Related Studies** July 2024
- **NASA ARSET: Urban Heat Islands, Remote Sensing** August 2022
- **Remote Sensing: Aquatic Vegetation** July 2022
- **Datacamp: Shell Programming** October 2022
- **University of Michigan: Python Data Structures** July 2019

ADDITIONAL INFORMATION

**Languages:** French (Native), Arabic (Native), English (Fluent), Spanish (Beginner)  
**Interests:** Remote Sensing, Climate Resilience, Agricultural Innovation, Artificial Intelligence, Machine Learning, Large Language Models (LLMs), Statistical Modeling