

# Annie Adams

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## EDUCATION

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**Master of Environmental Data Science**, 3.9 GPA (June 2024)

**Bren School of Environmental Science & Management – University of California, Santa Barbara (UCSB)**

Highlighted Coursework: Machine Learning in Environmental Science, Statistics for Environmental Data Science, Geospatial Analysis, Data Visualization & Communication, Environmental Modeling

Thesis Project: “Creating a Reproducible Model of Annual Emissions Outputs for a Sock Manufacturer’s Supply Chain”

**Bachelor of Science in Statistics and Data Science with a minor in Feminist Studies**, 3.74 GPA (June 2022)

**University of California, Santa Barbara (UCSB)**

Honors: Cum Laude, Dean’s List (4 quarters) | Involvement: Data Science Club (2021)

Senior Capstone Project: “Demographic Predictors of Climate Opinion”

**Associate Degree in Mathematics**, 3.92 GPA (June 2022)

**Moorpark City College**

Honors: Dean’s List (4 semesters) | Southern California Edison STEM Scholarship Recipient (2019 & 2020)

## TEACHING EXPERIENCE

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**Lecturer (Environmental Data Science) – Bren School of Environmental Science & Management**, Santa Barbara, CA (9/24–Present)

- Develop and implement innovative environmental data science curriculum by incorporating student feedback and industry best practices, resulting in a 94% satisfaction rating
- Provide detailed, constructive feedback on 300+ student analyses annually, improving accuracy and clarity of results while maintaining a 5-day turnaround time
- Deliver engaging instructional sessions on complex data science concepts, incorporating interactive visualizations and real-world case studies to increase student comprehension

**Teaching Assistant (Data Science) – UCSB Department of Computer Science**, Santa Barbara, CA (9/23–6/24)

- Translate complex data science concepts into comprehensible language, focusing on coding, data visualization, and significance testing, to students of a diverse background
- Deliver debugging assistance, explaining to students where they went wrong in their code
- Administer weekly labs, enhancing learning outcomes through Python notebook assignments

**Private Tutor** – Ventura, CA (8/19–Present)

- Developed and administered tailored practice tests for students in grades 3-12
- Simplified complex concepts through visual aids and interactive discussions
- Improved student’s overall grades by an average of 14%

## DATA SCIENCE & STATISTICAL ANALYSIS PROJECTS

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**Modeling Annual Emissions for Darn Tough’s Supply Chain – Master’s Capstone Project** (1/24–6/24)

- Reworked company’s emission database by translating excel calculations into R to promote reproducibility
- Developed an interactive dashboard for the company that visualizes carbon emissions across scopes
- Forecasted different emission usage based on different sock materials to assist in achieving reduction targets

**Visualizing Seattle Transit Data – Data Visualization Master’s Course Project** (2/24)

- Cleaned and aggregated Seattle bike sensor count data to visualize seasonal and annual trends
- Developed engaging visualizations that aesthetically and computationally enhanced a bike transit infographic

### **Quantifying Homes Affected by Texas Power Outage – Remote Sensing Master’s Course Project (11/23)**

- Utilized remotely sensed data to find communities that experienced a blackout due to the 2021 storms
- Conducted spatial data analysis by joining remotely sensed data with Texas geographical data and census data, removing misleading highway lights, and calculating raster differences pre and post storm

### **Interactive Hypoxia Primer – CalCOFI Internship Project (4/23)**

- Developed an interactive web-based primer utilizing R’s `{parallaxr}` package, enhancing user engagement through innovative UI design
- Analyzed over 70 years of oceanic data to track oxygen levels off the California Coast, transforming complex datasets into accessible visualizations for non-experts
- Optimized user interface design to maximize clarity and accessibility of scientific data for a diverse audience

### **Demographic Predictors of Climate Change – Central Coast Data Science Fellow Capstone Project (1/22–6/22)**

- Developed predictive models to understand how demographic attributes were differentially predictive of climate opinion in different countries, continents, and time periods
- Cleaned and organized covariate data from 150+ global climate change opinion surveys

### **Predicting COVID cases in California Counties – Time Series Analysis Course Project (5/22)**

- Utilized the COVIDcast Epidata API package in python to aggregate one year’s worth of data involving doctor visits, case numbers, and COVID symptoms
- Created a decision tree regressor and standard vector regressor to predict the number of cases in certain California counties from January 1, 2021 - March 1, 2021

## **PROFESSIONAL EXPERIENCE**

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### **Environmental Data Storytelling Assistant – CalCOFI, San Diego, CA (Remote) (6/22–6/23)**

- Analyzed 70 + years of oxygen levels off the California Coast and created visualizations that conveyed the change in these levels over time in relation to El Nino events, utilizing a science communication lens
- Launched an [interactive primer](#) and an interactive timeline of CalCOFI history to inform California Coastal residents about issues related to the conversation of marine ecosystems
- Educated high school students on environmental data science topics to increase interest in the field

### **Central Coast Data Science Fellow – UCSB Department of Probability Statistics, Santa Barbara, CA (9/21–6/22)**

- Completed an intensive, NSF-funded fellowship program, excelling in comprehensive curriculum encompassing advanced statistical courses in machine learning, ethics, and science communication
- Organized data science panels in Santa Barbara for both prospective and current data science students

### **Manager – The Royal Egg Cafe, Westlake Village CA (1/19–9/20)**

- Interview potential employees and trained new employees on the policies and duties of the restaurant
- Enforced cleaning and sanitizing processes during the COVID-19 Pandemic
- Maintained a calm and stress free attitude amidst working in a fast paced environment

## **CONFERENCES**

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### **Women in Data Science Conference (Attended) – Stanford, CA (3/24)**

### **Posit Conference (Attended) – Remote (9/23)**

**California Cooperative Oceanic Fisheries & Investigations Conference (Presented) – San Diego, CA (12/22)**

- [A scrollytelling primer on hypoxia: Developing a data storytelling tool to communicate ocean observing data to California citizens](#)

## **SKILLS**

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**Programming Languages:** Excel, R, Python (NumPy, Pandas, Matplotlib, Geopandas, sciKit-learn), SQL, Latex, ESRI, ArcGIS

**Collaboration Tools:** Git, GitHub, Slack, R Projects, Google Workspace, Microsoft Suite