

Mark Barranda

mark.barranda@berkeley.edu | github.com/StrangeDagger | linkedin.com/in/markbarranda

Education

University of California, Berkeley

Expected Graduation: May 2025

B.A. Data Science [focus: Geospatial Information Systems and Tech]

Relevant Coursework: **Geospatial Information Systems(A+)**, Foundations of Data Science, Principles & Techniques of Data Science, The Structure and Interpretation of Computer Programs, Data Structures and Algorithms, Linear Algebra, Probability in Data Science

GIS Projects

Mapping Bigfoot: GIS Analysis for Habitat Suitability and Conservation Planning in Humboldt County

ESPM 72 - Final Project

April 2024

- Developed seasonal habitat suitability maps, revealing Bigfoot preferences for evergreen and grassland/herbaceous habitats with less steep slopes in summer, and deciduous, evergreen, and mixed forests with steeper slopes in winter.
- Analyzed spatial distribution of Bigfoot sightings, identifying denser clustering in summer and areas with a projected 300-900% increase in extreme heat days.
- Identified key privately-owned parcels for conservation, integrating habitat suitability, sightings data, and climate change impact projections for 2070.

Prescribed Fire Management Strategy for Rattlesnake Population Control in Alpine County

ESPM 72 - Final Lab

March 2024

- Utilized ArcGIS Pro to build a habitat suitability model for rattlesnakes by analyzing elevation, slope, and proximity to conserved land, assigning scores to each parameter, and identifying areas with composite scores suitable for rattlesnake presence.
- Employed ArcGIS Pro's spatial analysis tools to calculate treatment costs based on fire risk values, determine the number of children per house, and develop a cost-effective plan for prescribed burns to protect 1,000 children, incorporating geospatial data from multiple sources (shapefiles and spreadsheets).

World Wildlife Fund

GIS Analyst, Data Science Consultant

September 2023 - December 2023

- Spearheaded a comprehensive evaluation of five leading Large Language Models (LLMs) to identify the most effective one for summarizing WWF's global accomplishments
- Utilized **Langchain** and **vector databases** for efficient PDF text extraction
- Guided the visualization of WWF's global impact through the integration of **Mapbox**, **Folium**, and **OpenStreetMap** polygons stored in GeoJSON formats. Led the development of an interactive map featuring a search function.

Data Science Projects

The Nature Conservancy

Data Science Consultant

January - May 2024

- Leveraged Kling Gupta Efficiency (KGE) metrics to **optimize predictive accuracy** of stream flow levels in California rivers, enhancing water resource management strategies and decision-making processes
- Led the **Exploratory Data Analysis (EDA)** on vast datasets sourced from the National Land Cover Database (NLCD), elucidating actionable insights to enhance the team's comprehension of feature utilization, thereby optimizing model accuracy across diverse applications.

Work Experience

Fedex Office & Print Services, Lead Consultant

December 2018 - September 2023

- Acknowledged in the company-wide newsletter for the month of April 2022 for an outstanding customer service experience, demonstrating a commitment to sustained excellence even in the height of the pandemic
- Boosted our store's survey performance by 200% after implementing a token system among team members which incentivized my team for going the extra mile of delivering excellent customer service

Volunteer & Activities

- Data Science Society - Social Good Committee
- Golden Bear Orientation Leader
- Psychology Club member at Fullerton College
- La Palma Yearly Run
- Designation for Human-Centered solutions (hosted by Bumble and Adobe)
- The Berkeley Project
- Phi Theta Kappa (Honor Society) at Fullerton College
- Party Planning Committee at FedEx Office

Skills & Interests

Languages: English (Native), Tagalog (Native)

Skills: ArcGIS Pro, Remote Sensing, Mapbox, Folium, Openstreet Map, Matplotlib, Seaborn, GeoPanda, Spacy, Jupyter Notebook, Microsoft Suite, Qualtrix, Research Methods, Data Visualization, Python, Java, SQL, C++, HTML, CSS, Pandas

Certification: CITI - Social and Behavioral Research

Interests: Volleyball, Pickleball, Traveling, Dystopian and Sci-Fi Movies, Fitness, Switch, PC gaming, Interstellar topics, Podcasts, Fantasy novels, Various Kindle Books