

# Gregory Quach

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## EDUCATION

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**University of California San Diego** La Jolla, CA  
*B.S. in Data Science (GPA: 3.77/4.0) AI/ML specialization. Minor in Cognitive Science* Sep 2021 – Mar 2025

## WORK EXPERIENCE

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**Machine Learning Engineer Mentee** San Diego, CA  
*San Diego Gas & Electric* Sept 2024 – Mar 2025

- \* Presented the working prototype to SDG&E stakeholders, influencing internal discussions around AI integration and paving the way for future adoption into the company's asset management workflows.
- \* Developed a computer vision model (YOLO) to automatically detect obstructions on powerlines, streamlining manual processes and reducing human error in critical infrastructure monitoring.
- \* Working in a team with SDG&E and UCSD's DSC Capstone members, I served as the lead contributor to align AI solutions with real-world utility needs.

**Data Analyst and Consultant** remote  
*One Community Global* July 2023 – Oct 2023

- \* Conducted thorough data analysis and aggregation to formulate informed business decisions, utilizing spreadsheets for various visualizations to promote sustainable initiatives.

## RESEARCH EXPERIENCE

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**Scripps Institute of Oceanography** La Jolla, CA  
*Undergraduate Research Assistant* Oct 2024 – Apr 2025

- \* Contributed data-driven visualizations that support international environmental policy discussions, including efforts to inform and influence sustainability frameworks at the **United Nations**.
- \* Utilized ArcGIS to process and visualize geospatial data, creating the first spatially explicit map to show how natural resources are valued, promoting a balanced view that includes both extractive and non-extractive contributions to national development.

**Salk Institute** La Jolla, CA  
*Undergraduate Research Assistant* July 2024 – Mar 2025

- \* Working as a team, I created open-source materials in SLEAP and SLEAP-NN to allow for widely available animal pose estimation resources.
- \* Aided in the conversion of the SLEAP-NN repository from Tensorflow to Pytorch, resulting in faster, more flexible use across all operating systems.

## CERTIFICATIONS

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**Hugging Face**  
*AI Agents*

- \* Built custom AI agents using modern frameworks and tools.
- \* LlamaIndex, LangGraph, and smolagents

**Google**  
*Data Analytics*

- \* Applied data preparation, analysis, and visualization techniques for decision-making.
- \* Spreadsheets, SQL, Tableau, and R.

## PROJECTS

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### **Wavewatch**

*AI, fullstack*

- \* Used Gemini-2.0-flash to analyze and rate surf conditions, integrating live oceanic data pulled via NOAA and Stormglass into a fullstack application built with a MERN framework.
- \* Provides relevant surf conditions for any beach and uses AI to analyze the goodness of the conditions specific to each beach.

### **League of Legends Classifier**

*Machine Learning*

- \* Developed an ML model to predict players' positions based on post-game data.
- \* Utilized column transformers, pipeline, grid searcher, decision tree classifier.
- \* Achieved 95% classification accuracy, surpassing 52.1% baseline.

### **Surfboard Notifier**

*LLM, script*

- \* Developed an automated monitoring system using Gemini-2.0-flash to categorize and filter Craigslist surfboard listings, sending only relevant notifications via email after searching criteria are met.

## TECHNICAL SKILLS

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**Programming & Data Tools:** Python, SQL, R, Pandas, Excel, scikit-learn, Dask, Spark    **Visualizations:** Tableau, Seaborn, ArcGIS, Matplotlib, gradio, streamlit, D3    **Machine Learning & AI:** Computer Vision, Predictive Modeling, LLMs (LangGraph, LlamaIndex), Prompt Engineering, Recommender Systems    **Cloud & DevOps:** AWS (EC2, S3), Docker, GitHub    **Web:** HTML, JavaScript, Figma