

Gregory Quach

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PROFESSIONAL SUMMARY

AI Engineer & Data Scientist

GenAI and Computer Vision. Developer of **Wavewatch** (MERN/RAG/APIs). Expert in curating high-fidelity LLM datasets and deploying CV pipelines capable of offsetting **2M+ manual inspection hours**.

TECHNICAL SKILLS

AI & ML: LLMs (Gemini), **RAG**, Agentic Frameworks (**LangGraph**, LlamaIndex, smolagents), Computer Vision (YOLO)

Programming & Data: **Python** (Pandas, scikit-learn), R, SQL, PyTorch, TensorFlow, Dask, Spark, ETL Pipelines

Cloud & DevOps: **AWS** (EC2, S3), Docker, Git, CI/CD, Vector Databases (**Pinecone**)

Tools & Visualization: Tableau, ArcGIS, Gradio, Streamlit, Matplotlib, Seaborn, Figma

TECHNICAL AI EXPERIENCE

Scholar Stream | *Autonomous Multi-Agent System, LangGraph, Fine-tuning*

- Engineered a production-ready research agent using **LangGraph** to orchestrate a 4-agent workflow (Planner, Researcher, Writer, Critic) with stateful **conditional routing** and automated self-critique loops for iterative report refinement.
- Fine-tuned a **Qwen3-14B** model via **Unsloth** using **LoRA** adapters and 4-bit quantization to enhance chain-of-thought reasoning, achieving 2-3x faster inference for autonomous task decomposition and multi-source synthesis.

Wavewatch | *AI, Fullstack*

- Architected **real-time RAG pipeline** to synthesize live telemetry from multiple **APIs** into a production-ready **MERN** stack.

League of Legends Classifier | *Machine Learning*

- Engineered a machine learning pipeline utilizing Column Transformers and GridSearchCV with a Decision Tree Classifier to **increase accuracy by 43%**, surpassing the 52.1% baseline to a 95% accuracy.

Surfboard Notifier | *LLM, Script*

- Engineered an automated LLM pipeline to filter Craigslist listings and deploy real-time notifications.

WORK EXPERIENCE

Machine Learning Engineer

San Diego Gas & Electric

San Diego, CA

Sept 2024 – Mar 2025

- Architected a YOLO-based computer vision pipeline to automate powerline obstruction detection, creating a solution capable of **offsetting 2 million hours** of manual inspection across critical utility infrastructure.
- Advised SDG&E stakeholders on AI integration, driving strategic roadmaps for automation and model adoption.

Data Analyst and Consultant

One Community Global

Remote

July 2023 – Oct 2023

- Guided executive strategy through data-driven insights for sustainable initiatives.

RESEARCH EXPERIENCE

Scripps Institute of Oceanography

Undergraduate Research Assistant

La Jolla, CA

Oct 2024 – Apr 2025

- Contributed data-driven analyses that support international environmental policy discussions, including efforts to inform and influence sustainability frameworks at the **United Nations**.

Salk Institute

Undergraduate Research Assistant

La Jolla, CA

July 2024 – Mar 2025

- Architected the migration of the SLEAP-NN repo from TensorFlow to PyTorch, enabling cross-platform flexibility.

EDUCATION

University of California San Diego

B.S. in Data Science (GPA: 3.77/4.0) AI/ML specialization. Minor in Cognitive Science

La Jolla, CA

Sep 2021 – Mar 2025