Sunny (Ching) Sun

La Jolla, San Diego, CA

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Education

University of California San Diego (UCSD) **Sep. 2023 – Jun. 2027 (Expected)**

*B.S. in Data Science, Minor in Mathematics — GPA: 3.87/4.0 — Provost's Honors*5* *La Jolla, CA*

Relevant Coursework: Data Structures & Algorithms, Database Systems, Machine Learning, Probability & Statistics, Linear Algebra, Data Visualization, Web Development, Convex Optimization, Recommendation Systems & Web Mining

Technical Skills

Languages: Python, Java, JavaScript, TypeScript, SQL, HTML/CSS
Frameworks & Libraries: React, D3.js, Mapbox GL JS, Pandas, NumPy, TensorFlow, PyTorch
Tools & Platforms: Git, Docker, AWS, Google Cloud, Google Earth Engine, PostgreSQL, REST APIs, Linux, Figma

Experience

Undergraduate Research Scholar **Jun. 2025 – Present**

Halıcıoğlu Data Science Institute (HDSI), UC San Diego *La Jolla, CA*

- Developing **IsleNet**, an ongoing research project using satellite imagery, data-driven modeling, and visualization to study island shrinkage.
- Building modular data pipelines with **Google Earth Engine** to ingest and preprocess multi-year satellite imagery into analysis-ready geospatial time-series datasets.
- Exploring interpretable modeling approaches to detect shoreline change and long-term coastal trends.
- Designing an interactive web-based visualization platform, enabling users to explore island-level change over time.
- Selected an **HDSI Undergraduate Research Scholar** and awarded a **$2,500 competitive research scholarship**.

Projects

Sunny Cloudy SoCal — Interactive Data Visualization Website **Nov. 2025 - Dec. 2025**

JavaScript, D3.js, Mapbox GL JS, NOAA GOES-16

- Built a full-stack interactive website visualizing **700+ high-resolution geospatial time-series satellite images**.
- Implemented interactive visualizations using **D3.js** and **Mapbox GL JS**, including a custom timeline scrubber.
- Developed a physics-inspired fog simulation to model and animate cloud movement in real time.
- Engineered a weighted ranking system enabling personalized city recommendations based on climate preferences.
- Awarded **Best Project (Top 3 of 31 teams)** for technical rigor and storytelling clarity.

MacScore — Nutrition Tracking & Meal Health Scoring Web App **Oct. 2025**

Next.js, TypeScript, PostgreSQL, React Query

- Designed and built **MacScore**, a full-stack nutrition tracking app that helps users evaluate meals from popular fast food restaurants using a custom health score based on normalized nutrient values.
- Implemented a reactive meal builder with **Zustand** and **React Query**, enabling real-time nutrition recalculation and instant visual feedback as users customize ingredients.
- Designed a scalable **PostgreSQL** schema with secure access controls and optimized search (e.g., trigram indexing) to support fast querying across restaurant menus.
- Built a responsive, accessible UI with **Tailwind CSS**, leveraging server-side rendering to improve initial load performance and overall user experience.

DiamondHack Hackathon — Search and Rescue Platform **Mar. 2024**

HTML, CSS, JavaScript

- Developed the main frontend interface for a search-and-rescue for lost children coordination website.
- Optimized UI/UX for accessibility and responsiveness under a 48-hour development constraint.

Leadership & Activities

Social Media & Marketing Coordinator **Jan. 2025 – Present**

Halıcıoğlu Data Science Institute (HDSI) *UC San Diego*

- Lead branding, marketing, and event promotion for HDSI's student community of 1,000+ members.

EDGE Mentor **Oct. 2024 – Jun. 2025**

Women in Computing (WIC) / Society of Women Engineers (SWE) *UC San Diego*

- Mentored highschool girls on **college readiness** and **STEM career paths**, empowering them in bi-quarterly sessions.

DataJam Mentor **Aug. 2024 – Apr. 2025**

San Diego Supercomputer Center (SDSC) *San Diego, CA*

- Mentored two high school teams through their **data science projects** as part of the nationwide **DataJam** competition.
- Held biweekly mentoring sessions over **four months**, providing structured feedback on data processing, modeling choices, and effective technical storytelling.