Daniel Naylor

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EDUCATION

University of California, Irvine — Irvine, CA
Ph.D. in Statistics — 2025–Present

University of California, Santa Barbara (College of Creative Studies) — Santa Barbara, CA
BSc in Mathematics, *Minor* in Statistical Science — 2021–2025
Honors: *Highest Honors*

RESEARCH EXPERIENCE

Department of Applied Probability & Statistics, UC Santa Barbara — Santa Barbara, CA
Summer Undergraduate Researcher — 2024

- Aimed to develop novel metrics for evaluating skill of NBA basketball players. Sponsored by CCS Summer Undergraduate Research Fellowship, and mentored by Dr. Alexander Franks.
- Developed an original framework, motivated from causal inference, that characterizes game periods as a population receiving treatment based on presence of players, in pursuance of making problem tractable and quantifying metrics.
- Reduced runtime by 99% of deployment of over 500 random forest and doubly robust estimator models, trained on 30,000+ datapoints, via rewriting many implementations with matrix algebra and vectorized operations.
- Procured several different metrics to compare against standard RAPM, and found that our metrics are weakly correlated with RAPM, though ran into difficulties establishing predictive power for all metrics, including RAPM.

Department of Mathematics, UC Santa Barbara — Santa Barbara, CA
Directed Reading Program Participant — 2022–2023

- Researched Hopfield and Ising models, including early literature and modern implementations. Sponsored by the UCSB Math Department's Directed Reading Program, and mentored by graduate student William Sheppard.
- Dived into theoretical underpinnings of machine learning, in particular design motivations and use-cases.
- Constructed a Python module containing a trainable Hopefield model, and deployed it onto several 25x25 black and white images to illustrate performance and results.

WORK EXPERIENCE

Data Science UCSB — Santa Barbara, CA
Internal Vice President — 2024–2025

- Organized themes, judging criteria, office hours, and workshop material for club's first hackathon, DataOrbit 2025, totaling approximately 200 attendees, resulting in 12 finalist presentations from groups of beginners.
- Spearheaded improvement of workshop material among technical officers, further raising attendance by 100% on average compared to the previous year. Personally hosted workshops on Regression, Statistical Modeling, and Bayesian Statistics.
- Directed team of mentors for 61 project groups, totaling 288 members, via brief weekly meetings and quarterly milestones, ultimately resulting in 50% improved attendance at our company-sponsored showcase compared to previous years.

Director of Technical Development — 2023–2024

- Overhauled system of project accountability and skill acquisition with regular meetings and workshops, improving participation by 60% in our company-sponsored project showcase.
- Curated clear, digestible, and articulate workshops in Python, NumPy, Data Preprocessing, and Basic Data Analysis, improving attendance by 200%-300% compared to similar workshops in previous years.

Campus Learning Assistance Services, UC Santa Barbara — Santa Barbara, CA
Mathematics Tutor — 2023–2025

- Led discussion sections in linear algebra and multivariable calculus for struggling students by reviewing material and connecting to familiar concepts, ensuring that all my students earned a minimum grade of B.
- Communicated math topics to hundreds of students, via walk-in tutoring, across all lower division subjects by breaking down concepts into smaller explanations, guaranteeing a newfound understanding in aid of their learning.

The Learning Center, College of the Canyons Santa Clarita, CA
Mathematics Tutor 2022

POSTER PRESENTATIONS

"The Cause in Basketball Skill", Research & Creative Activities Conference, UC Santa Barbara, California, 2024
"Hopfield Models and Modern Implementations", Directed Reading Program, UC Santa Barbara, California, 2023

AWARDS AND ACCOLADES

Summer Undergraduate Research Fellowship, College of Creative Studies 2024
Vigil Honor 2022
Eagle Scout 2020

SKILLS

Programming Languages: Python, R, LaTeX, Stan, JavaScript
Scientific Computing: NumPy, SciPy, scikit-learn, PyMC, shinystan, PyTorch
Data & Visualization: pandas, matplotlib, seaborn, ggplot, dplyr, tidyverse