Daniel Naylor

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EDUCATION

University of California, Irvine — Irvine, CA
Ph.D. in Statistics — 2025–Present
Relevant Coursework: Clinical Trials, Statistical Methods, Probability & Statistical Theory

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 Researcher — 2024
Sponsored by CCS Summer Undergraduate Research Fellowship. Mentored by Dr. Alexander Franks.

- **Developed** an original framework, motivated from causal inference, that characterizes NBA games 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 the standard RAPM, and found that our metrics are weakly correlated with RAPM.

Department of Mathematics, UC Santa Barbara — Santa Barbara, CA
Mentee — 2022–2023
Sponsored by UCSB Directed Reading Program. Mentored by William Sheppard.

- **Analyzed** behavior and convergence of Hopfield and Ising models.
- **Constructed** a Python module containing a trainable Hopefield model, and deployed it onto several 25x25 black and white images to illustrate performance and analysis of models, drawing parallels to modern neural networks.

WORK EXPERIENCE

Department of Mathematics, UC Santa Barbara — Santa Barbara, CA
Reader — 2025

- **Graded** two upper-division mathematics courses in Optimization and Operations Research as a senior undergraduate.
- **Coordinated** communication channels between professor and students by monitoring student messages and visualizing score data to streamline class operations and quantify learning efficacy.
- **Designed** rubrics for both homework and exams to maximize constructive feedback and student learning.

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.
- **Improved** attendance by 100%, on average compared to the previous year, via spearheading enhancement of workshop material among technical officers. 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% more attendance at our company-sponsored showcase compared to previous year.

Director of Technical Development — 2023–2024

- **Improved** participation by 60% in our company-sponsored project showcase via ameliorating system of project accountability and skill acquisition with a novel system of regular meetings and workshops.
- **Curated** clear, digestible, and articulate workshops, resulting in 250% more attendees compared to similar workshops under different leadership. Held workshops in Python, NumPy, Data Preprocessing, and Basic Data Analysis

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

- **Guided** discussion sections in linear algebra and multivariable calculus for struggling students by reviewing material and connecting to familiar concepts, raising grades by upwards of 15 points, i.e. a letter grade.
- **Communicated** math topics to hundreds of students, via drop-in tutoring, across all lower division subjects by breaking down concepts into smaller explanations, guaranteeing a newfound understanding in aid of their learning.

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