

Praveen Nair

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Research interests

Machine learning fairness, AI policy & ethics, interpretability, ML for social good

Education

- 2022 – 2024 **University of California, San Diego** – La Jolla, CA
M.S., Computer Science and Engineering
Thesis Advisor: [David Danks](#). *GPA: 3.72.*
- 2018 – 2022 **University of California, San Diego** – La Jolla, CA
B.S., Data Science, minors in history & linguistics, concentration in political science
GPA: 3.961, Magna Cum Laude

Publications

- 2022 **Engagement in online learning: student attitudes and behavior during COVID-19**
Brooke Hollister*, **Praveen Nair***, Sloan Hill-Lindsay, Leanne Chukoskie.
Frontiers in Education. <https://doi.org/10.3389/feduc.2022.851019>

Research experience

- March 2023 - Present **Thesis research, UC San Diego**
Advisor: [David Danks](#) (Data Science & Philosophy).
Working on thesis research on active learning for fairer sequential decisionmaking, using Bayesian methods in latent variable modeling and likelihood estimation. Also running simulations on causal discovery algorithms, in collaboration with TReNDS Center.
- June 2021 - June 2022 **Stowers Lab, Scripps Research Institute**
PI: [Lisa Stowers](#).
Used ML tools such as [DeepLabCut](#) and [B-SOID](#) on remote computing cluster, extracted pose information from mouse behavior video, timeseries analysis. Supported projects studying neurological underpinnings of physiological arousal, mouse scent marking, and olfaction.

- June 2021 - December 2021 **UC San Diego Computer Science & Engineering**
PI: [Christine Alvarado](#).
Studied effects of early undergraduate CS research program on students' identity as researchers and computer scientists. Used thematic analysis methods on open-ended survey data, as well as Python for preprocessing, analysis, and interrater reliability calculation.
- October 2020 - June 2021 **Qualcomm Institute @ UC San Diego**
PI: [Leanne Chukoskie](#).
Survey project about student experiences with engagement in online learning at UCSD during COVID. Co-first-author of paper [published in Frontiers in Education](#), analyzed & visualized data in R, wrote paper Results section

Teaching experience

- Fall 2022, Winter 2023, Fall 2023, Winter 2024 **Teaching assistant, DSC 180A/B: Data Science Project.**
Professor: [Suraj Rampure](#). Supervised undergraduate senior capstone projects, met with project groups, graded assignments, advised on course content.
- Spring 2023 **Teaching assistant, DSC 80: Practice and Application of Data Science.**
Professor: [Tauhidur Rahman](#). Led discussion sections of 80 to 100 students with live coding, held very busy office hours, graded assignments, and wrote and graded portions of exams.

Other experience

- June 2020 - June 2022 **Sports Editor, UCSD Guardian**
Wrote and edited (mostly) sports articles for UCSD's campus newspaper, created a 71-minute documentary about UCSD's early campus history that received second place at the San Diego Press Club awards. [My work is available here](#).
- Summer 2020 **Percolata, Software Engineering and Machine Learning Intern**
Software and timeseries machine learning experimentation for product for automating day trading strategies in Google Cloud Platform. Worked with Python, GCP, timeseries estimation methods & deep learning frameworks.

Projects

- September 2021
- March 2022
- Patterns of Fairness in Machine Learning**
Along with Anne Xu and Daniel Tong, an user-extensible empirical analysis of ML fairness using various combinations of models, metrics, and datasets. [Project repository available here.](#)
- Spring 2023
- Logistic Regression Penalizing Demographic Disparities**
Final project for CSE 203B: Convex Optimization. Built on [Bechavod and Ligett \(2018\)](#) to develop fairness penalizers for logistic regression; derived dual formulation and solved with CVXPY. [Project report available here.](#)

Honors

- 2023
- NextProf Pathfinder Workshop**
Conference for early graduate students interested in faculty and academic careers. Administered by University of Michigan, Georgia Tech, UC San Diego.

Technical skills

Programming languages

Extensive work with Python, R, have also worked in Java, Go, MATLAB, HTML/CSS, Javascript.

Software

LaTeX, Git, Docker/Kubernetes, Jupyter, DeepLabCut, AWS, Google Cloud Platform, probably a few other things I'm forgetting.