ESTEBAN ESCOBAR

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EDUCATION

University of California, Irvine   **Irvine, CA**
Master's Degree in Statistics, 3.60 GPA   *Sep 2021–Jun 2023*

California State Polytechnic University, Pomona   **Pomona, CA**
Master's Degree in Applied Mathematics, 3.96 GPA   *Aug 2019–May 2021*

TECHNICAL EXPERTISE & CERTIFICATIONS

Statistical Techniques: Generalized Linear Model, Longitudinal Data Analysis, Survival Analysis, Computational Statistics, Visualization

Programming Languages: R, SQL, Github, Python, Matlab, LaTeX

Certification: SQL for Data Science

PROFESSIONAL EXPERIENCE

Work

Statistical Analysis Consultant   **Irvine, CA**
Statistics Department, UC Irvine   *Jun 2022–Jun 2023*

- Delivered statistical consulting services to diverse clients, employing advanced analytical techniques to analyze complex databases, develop robust models, and interpret results. Communicating findings through clear, concise presentations and reports.

- Showcased outstanding proficiency in data management and preparation by evaluating, cleaning, and converting large datasets using R and Python, ultimately leading to precise data storage practices and significantly improving the efficiency of data analysis procedures.

- Served as the principal statistician on multiple research projects to identify the relationship between race-ethnicity and neuropsychiatric symptoms among Alzheimer's patients, leveraging expertise in data analysis and interpretation to uncover meaningful insights.

Instructor\Teaching Assistant   **Pomona, CA & Irvine, CA**
Mathematics Department, Cal Poly Pomona & Statistics Department, UC Irvine   *Aug 2019–Jun 2023*

- Hosted regular office hours and interactive Q&A sessions, effectively addressing students' inquiries and concerns. Demonstrated strong problem-solving skills and adaptability, fostering a supportive environment and enhancing student comprehension and engagement.

- Efficiently coordinated and conducted a series of workshops and tutorials encompassing a wide array of programming languages, including R, Python, Github, Matlab, and Latex, to provide invaluable support to students in completing assignments and projects.

- Successfully managed and prioritized a diverse array of tasks and stringent deadlines, ensuring timely grading and delivery of constructive feedback on students' assignments and projects, ultimately enhancing organizational and analytical skills.

Data Scientist   **Berkeley, CA**
Mathematical Science Research Institute   *Jun 2018–Jul 2018*

- Collaborated with a cross-functional research team to co-design and develop a classification model to detect Atrial Fibrillation. Leveraged advanced topological features extracted from single-lead electrocardiograms to significantly enhance classification accuracy.

Data Projects

Race and Perceived Discrimination: Investigating Their Effects on Physical Function in the Elderly (2023 Qualifying Exam):

- Data on 7,836 older adults were obtained from a random subset of the Chicago Health and Aging Project to assess the association between perceived discrimination and physical function over time.

- Employed R programming to conduct comprehensive cross-sectional and longitudinal statistical analysis, addressing and deriving insights for the pertinent scientific question, thereby contributing to informed decision-making and strategy formulation.

- Effectively implemented Jackknife Repeated Replication (JRR) to mitigate estimation bias, significantly enhancing the reliability and validity of research findings from the complex sampling design of the Chicago Health and Aging Project Study.

Neuropsychiatric Symptoms and Alzheimer Disease Risk Differences Across Racial and Ethnic Groups:

- Analyzed data from the National Alzheimer's Coordination Center (NACC) to investigate the relationship between Mild Behavioral Impairment (MBI) symptoms and race/ethnicity, aiming to identify potential disparities among individuals with dementia.

- Managed, cleansed, and transformed large datasets using Excel and R, reducing 50,000 unstructured observations to 15,000 structured ones, enabling the execution of complex Logistic and Proportional Hazards models to estimate the odds and relative risk of MBI.

- Estimated odds of exhibiting MBI symptoms are 81% higher in Hispanics compared to non-Hispanic whites adjusting for all possible confounders. Similarly, the relative risk of MBI progression is estimated to be 15% higher in Hispanics than non-Hispanic whites.

PUBLICATION & ABSTRACT

P. S. Ignacio, C. Dunstan, E. Escobar, L. Trujillo, and D. Uminsky, "Classification of single-lead electrocardiograms: TDA informed machine learning," in 2019 18th IEEE International Conference On Machine Learning And Applications (ICMLA), pp. 1241–1246

V. V. Nguyen, E. G. Escobar, D. L. Gillen, and D. L. Sultzer, "Neuropsychiatric symptoms and Alzheimer disease risk differences across racial and ethnic groups," in Alzheimer's Association International Conference, 2023.