Wayne Monical

waynemonical@berkeley.edu (626) 586 − 7000

Education

BA Double Major in Statistics and Math • May 2021 • University of California Berkeley

Major GPA: 3.6

Calculus, Two Semesters (A)	Multivariable Calculus (A-)	Concepts of Computing (B+)	Probability (A-)
Microeconomic Theory (A)	Macroeconomic Theory (A-)	Real Analysis (A)	Complex Analysis (A+)
Stochastic Processes (P)	Surveys and Sampling (P)	Advanced Linear Algebra (P)	

Skills

Statistics

Advanced in quantitative and categorical data analysis, including single and multiple regression. Advanced in parametric and non-parametric statistical tests. Proficient in complex survey design and model-based survey analysis. Proficient in Bayesian statistics and simulations.

Software

Advanced in R and RStudio; proficient in JAGS software; familiar with Python for use in data cleaning and manipulation. Familiar with Git and Github for robust file management.

Research Experience

Undergraduate Researcher • Human BRCA2 Gene • March 2021 – Present

Under supervision of UC Berkeley's Professor Rasmus Nielsen, used regression, experimental design, and machine learning methods to analyze BRCA2 gene mutations under environmental stress.

Professional Experience

Intern • Lavell Communications • May 2018 – Jan 2019

Performed statistical and narrative analysis on Anaheim Police Department's staff survey. Increased transparency of department leadership and managerial practices. Built skills in data cleaning, analysis, and communication. Acquired a work ethic.

Projects

Player Analysis: MLB's 2012 season

Graded A+ in Fall 2019. A data analysis project based on the linear model and its selection in large data sets. *Introduction to Linear Models*, the class that assigned this project, taught me the most practical, applicable, and interpretable methods that I have ever learned, and allowed me to "show off" my own insights in this project.

Bayesian Statistics for Data Analysis

Ongoing self-study and application of Belman's *Bayesian Data Analysis*. Demonstrating and understanding the failures of Empirical Bayes techniques as well as the process and theory of Bayesian simulations, i.e. the Gibbs sampler and its applications, using JAGS software.

Economic, Educational, and Healthcare: Decisions and Incentives

Using basic principles of micro-economics, probability, and game theory to produce correct and efficient incentives for consumers and providers of health care in a theoretical United States. An attempt to demonstrate how health-care and decisions under uncertainty could put us all ahead, and "work" for everyone, and an explanation as to why it doesn't right now. A small ongoing passion project.

Volunteer and Club Experience

Co-founder and Secretary • Statistics Undergraduate Student Association • Jan 2020 – May 2021

Addressed critically unmet needs of UCB's undergraduate statistics majors. Course planning and graduate school application workshops. Personally planned, recruited, and implemented graduate-undergraduate mentorship and advice program.

Advising Fellow • Matriculate • Dec 2018 – Jul 2020

Volunteer work advising high-achieving and low-income high-school students applying to selective and high-graduation rate colleges. Both advised students were accepted and are attending their top-choice institutions.

Member, Officer • Cal Fencing Club • Jan 2018 - May 2020

Winner of Novice Foil Tournament in 2018 at UC Davis. Managed budget and delivery for the purchase, transportation, printing, embroidery, and distribution of Cal Fencing Club apparel valued at $5,000.