

Xiaoluo Jiao

100 Haven Ave, New York, NY 10032
xj2278@cumc.columbia.edu | (929) 500-5391

EDUCATION

Mailman School of Public Health, Columbia University

New York, NY

Master of Science in Biostatistics, Theory and Methods Track, Expected in 2023

Sep.2021 - Present

Core Course: Probability, Data Science 1 & 2, Principle of Epidemiology, Biostatistical Methods 1 & 2, Statistical Computing with SAS, Statistical Inference

University of California, Davis

Davis, CA

Bachelor of Science in Biological Sciences, Minor in Statistics

Sep.2016 – Mar.2021

GPA: 3.75/4.00

Dean's Honors List: Fall 2017, Fall 2018, Fall 2019, Winter 2020, Spring 2020

ACADEMIC PROJECT

Study on Association of Changes in Body Mass Index (BMI) with Surgical Treatments for Diabetes

 Apr.2022

- Used SAS to perform data cleaning, missing data analysis, and exploratory analysis for longitudinal data
- Performed hypothesis tests like ANOVA and Wilcoxon signed-rank tests to make group-wise comparisons
- Adopted a generalized linear model to perform a cross-sectional analysis
- Designed a statistical model using the generalized estimating equation (GEE) to incorporate the longitudinal data and discovered a significant negative association between the reduction in BMI and surgical treatments over time

County Crime Rate Prediction from County Demographic Information Data

Dec.2021

- Used RStudio to perform exploratory data analyses such as histogram, box plots, Pearson Correlation matrix, etc.
- Performed Box-Cox and Principal Component Analysis to transform non-normal and highly correlated variables
- Adopted a stepwise regression model and a Lasso model, and compared nested models with ANOVA
- Used cross-validation to compare models for a best predictive model

Investigation on Relationship between Gun Crime Rate and the Covid-19 Outbreak in the US

Dec.2021

- Performed exploratory data analyses to clearly understand the data
- Perform time-series analyses to model the trend of mass shooting incidents over time, predicting that the average number of mass shootings will keep increasing in 2022 and most of them would happen in the middle of the year
- Develop an interactive US map using R-Shiny, leading to easier visualization of frequencies of mass shootings and other relevant information of shooting incidents in each state in the US
- Created interactive unemployment rate plots allowing the selection of specific state(s) of interest using R-shiny

WORK & RESEARCH EXPERIENCE

Research Intern, Investigation on the Zygotic Transition & Synthetic Apomixis in Rice

Davis, CA

Sundaresan Lab, Department of Plant Biology, UC Davis

Sep.2020 – Dec.2020

- Responsible for experimental data analysis, data cleaning, and data management using R
- Performed analyses of correlation & regression, one-way ANOVA, polynomial curve fitting, randomized block design, nested design, and multifactorial design

Research Intern, Study on Short Rotation Coppice (SRC) Willow as a Bioenergy Crop

Davis, CA

Taylor Lab, Department of Plant Sciences, UC Davis

Sep.2019 – Dec.2019

- Responsible for the harvest of willow samples, system monitoring, and maintenance in the greenhouse
- Measured and recorded physiological biomass in willows on a weekly basis
- Utilized t-test to analyze the significant difference in soil carbon stocks and found significantly lower soil respiration in SRC willow compared to grassland
- Built linear mixed model fitted by climate variables and found photosynthetically active radiation and soil water content affected net ecosystem exchange significantly

SKILLS

Programming & Software: RStudio, SAS, Unix Shell, Microsoft Access (SQL), Microsoft Excel