

Contribution Statement

STATS 451 Winter 2024 Group Project

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Jiayi Ji:

I led the initial stages of our project by conducting a comprehensive Exploratory Data Analysis (EDA). My responsibilities included data cleaning and creating visualizations to uncover and understand patterns in the dataset. I wrote the Introduction and Exploratory Data Analysis sections of our report, translating our discoveries in the EDA into an understandable narrative that laid the groundwork for our analysis.

Samuel Tan:

I focused on the core statistical methodologies and the interpretation of our findings. I designed the Bayesian logistic regression modeling approach, selected appropriate priors, and configured the Bernoulli-Logit model. I have also interpreted the final results and wrote a thorough conclusion. I wrote these technical details into actionable insights in the Methods and Conclusion sections of the report, ensuring our model predictions were rigorously assessed and clearly presented.

Ziming Wang:

I was responsible for the practical implementation of our statistical models using the RStan package. My tasks included coding the model, conducting validation checks, and refining the algorithms to improve performance. I also created visualizations of the model outputs, such as trace plots and posterior distributions, and compiled these findings into the Results section of our report, providing clear explanations to support our conclusions.

Together, we collaborated effectively to ensure the integrity and reliability of our research, contributing to a comprehensive and informative final report.