# Forecasting 2020 US Election Outcomes: The Role of Employment, Education, gender, and Race*

Sean Liu

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## 1 Introduction

Back in 2020, the US was having an important presidential election contest between the Democratic party and the Republican party. The Democratic ticket of former vice president Joe Biden and the Republican president, Donald Trump. The election saw the highest voter turnout by percentage since 1900, with each of the two main tickets receiving more than 74 million votes. In particular we are interested in whether we can forecast who a respondent is likely to vote for, based on knowing their employment status, highest level of education, and race. That means we are interested in a data-set with variables for who an individual voted for, and some of their characteristics, such as employment status, education level, gender, and their race. The data is from the 2020 election data set from Cooperative Election Study (CES) (Schaffner, Ansolabehere, and Luks 2021).

In this study, we used a logistic regression model to predict the 2020 election results, utilizing data from the Cooperative Election Study (CES). This model is well-suited for binary outcomes, such as predicting whether an individual voted for Trump or Biden. Our analysis aims to assess the probability of victory for each candidate, considering a variety of factors including employment status, education level, gender, and their race. The primary objective is to determine the actual support levels for Trump and Biden.

The remainder of this paper is structured into different sections. **?@sec-data** shows the data that are used for our study. It includes some graphs to demonstrate different groups of respondents in our data. **?@sec-model** builds the model and discusses its justification and

*Code and data are available at: https://github.com/Sluuu/Politics.git

explanation. **?@sec-result** highlights the results of the predictions using tables and graphs. **?@sec-discussion** contains discussions that conducted based on the findings, which addresses the voting prediction results based on race, region, employment status, and the influence of COVID-19 and in-mail voting systems.

Schaffner, Brian, Stephen Ansolabehere, and Sam Luks. 2021. "Cooperative Election Study Common Content, 2020." Harvard Dataverse. https://doi.org/10.7910/DVN/E9N6PH.