Project 1

Forecasting/predicting is one of the most useful consequences of statistics. In this exercise you will be a forecaster, but note "A good forecaster is not smarter than everyone else, he/she merely has his/her ignorance better organized." The task, currently as a nation we are undergoing a historical event, which many statisticians, political scientists, econometricians, etc. are attempting to forecast for various reasons. In particular, this event is the 2016 presidential race. The goal of this exercise is for you to develop a Bayesian approach which can be used to forecast the outcome of the 2016 presidential election. The election will be held on Tuesday, November 8, and therefore your due date will be set for Monday, November 7. The guidelines for this exercise are outlined below.

- A paper outlining your approach/methodology will be prepared, this work should include the following: an abstract succinctly summarizing the objective of the paper, an introduction discussing any relevant information, a methodology section which outlines in detail the approach that you have taken to forecast the election, a data section which discusses where data was obtained, the relevance that it has, and how you will use it. The last section of your paper should present your forecast for the outcome of the election for each of the 50 states; i.e., you should explicitly state whether you predict that Trump, Clinton, or possibly another candidate will win in each state. You should also include a bibliography. This paper should be no more than 10 pages and no fewer than 5, it should be single spaced, use standard margins, and 12 point font.

- I encourage you to look into what others have done historically to forecast presidential elections (or other similar events) and adapt/adopt these techniques. In doing so, you should provide appropriate references. Note: Plagiarism is not acceptable, can easily be spotted, and will result in a failing grade.

- Data sources: You are free to use any data source that you so desire, but you must acknowledge where you collected the data in a formal fashion; i.e., you should formally reference your data sources. Further, you should hand your data files in with your paper at the prescribed due date. These files should be full annotated and fully described.

- Fully annotated code, which implements your analysis, should be appended to your paper. Your code does not add to the length of your paper. Note, the use of existing software packages is completely acceptable (and actually recommended). The goal here is that anybody should be able to take your code and rerun it to obtain the results that you present, and you should provide the necessary details on how this is done.

- I prefer that your paper be prepared in Latex, and I will provide a general template that you can use to do so.

Important: Do not procrastinate, get started on this as soon as possible. It is really easy to detect work that has been thrown together at the last minute and I expect more from you. If you need any assistance, as always I am willing to help, but much of this should be an independent study.

Grading: This project will be graded with respect to two criteria. First (50% of the grade) the approach and your write up, you will be graded on your approach and its appropriateness, your write up, and the general presentation of your results. Second (50% of the grade) the accuracy of your forecast, since you are forecasting the outcome of 50 states and this portion of the project constitutes 50% of your grade, it is natural that every state you forecast correctly gains you 1% credit.