Name: Taha Shahid

Topic: Inferential statistics for “Default of Credit Card Clients Dataset”

Using inferential statistics some very strong predictors were found for the default of credit cards client’s dataset. The results are summarized below.

1. A two-proportion z-test was performed to see if the proportion of male default and female default was equal or not. The null hypothesis was assumed to be that the default of men and women is equal. Significance value of 0.05 was used to evaluate the p value. It was found that p value is lower than our significance value and so we had to reject the null hypothesis.
2. A logistic regression was applied using stats model library to see if credit limit was a good predictor of default or not and it was found out that it was a great predictor of default.
3. A logistic regression was applied using stats model library to see if age was a good predictor of default or not and it was found out that it was a good predictor of default but from the data storytelling, we found that different ages has different amount of default, visually. So, the age was divided into four sections: one for ages between 0 and 21, second for ages between 21 and 40, third for ages between 40 and 60 and fourth for ages between 60 and 80. The results showed that ages between 0 and 21 show age as a strong predictor of default, ages between 21 and 40 show age as a strong predictor of default, ages between 40 and 60 show age as a strong predictor of default but ages between 60 and 80 show age as not a good predictor of default since our p-value is greater than significance value.
4. A logistic regression performed on credit limit - bill amount did not turn out to be a good predictor because for the six periods of bill amount, four period showed statistical insignificance.
5. A bill amount divided by credit limit turned out to be statistically significant because four periods showed good statistical significance.
6. Lastly, for the payments made for the six periods, three out of six showed statistical significance when it came to be a predictor for default.