



Lending Club Case Study

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BACKGROUND

- Lending club is the largest online loan marketplace facilitating personal loans, business loans and financing of medical procedures connecting lenders and borrowers through a online platform.
- Lenders will decide whether to give the loan to the borrower or not.

OBJECTIVE:

To identify the driving factors behind loan default i.e, the variables which are strong indicators of default.

Data Understanding

Types of Variables:

- Customer demographic
- Loan related information & characteristics
- Customer behaviour

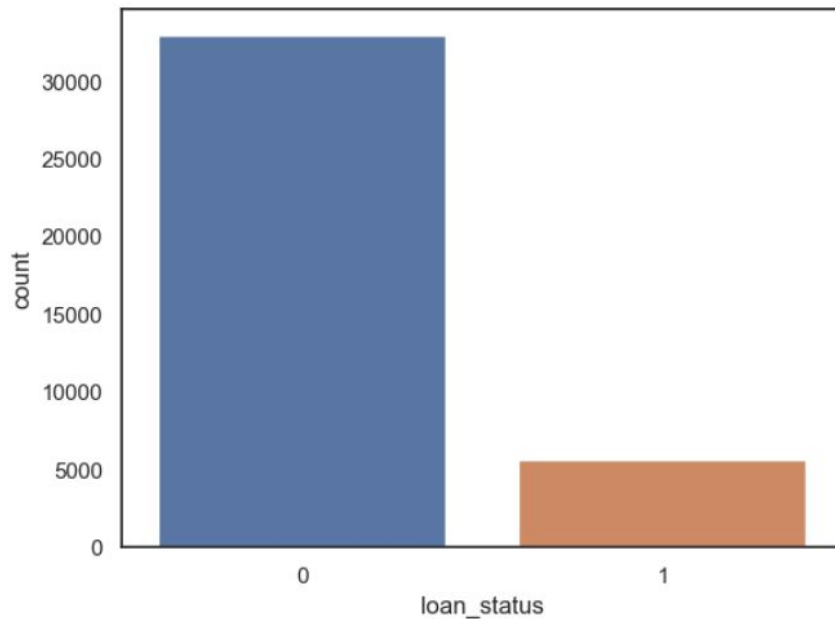
Customer Demographics
Employment Length
Employment Title
Annual Income
Description

Loan Information
Loan Amount
Funded Amount
Interest Rate
Loan Grade

Customer Behaviour
Revolving Balance
Loan Purpose
Application Type
Earliest Credit Line

DEFAULT RATE - 15%

The Default rate between the fully paid and charged off is of 15%.



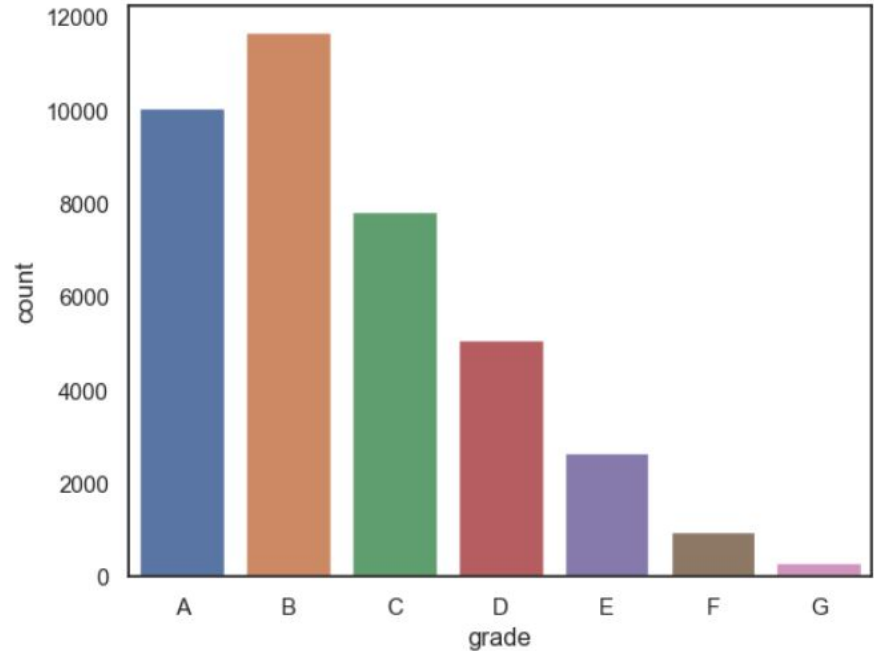


UNIVARIATE ANALYSIS



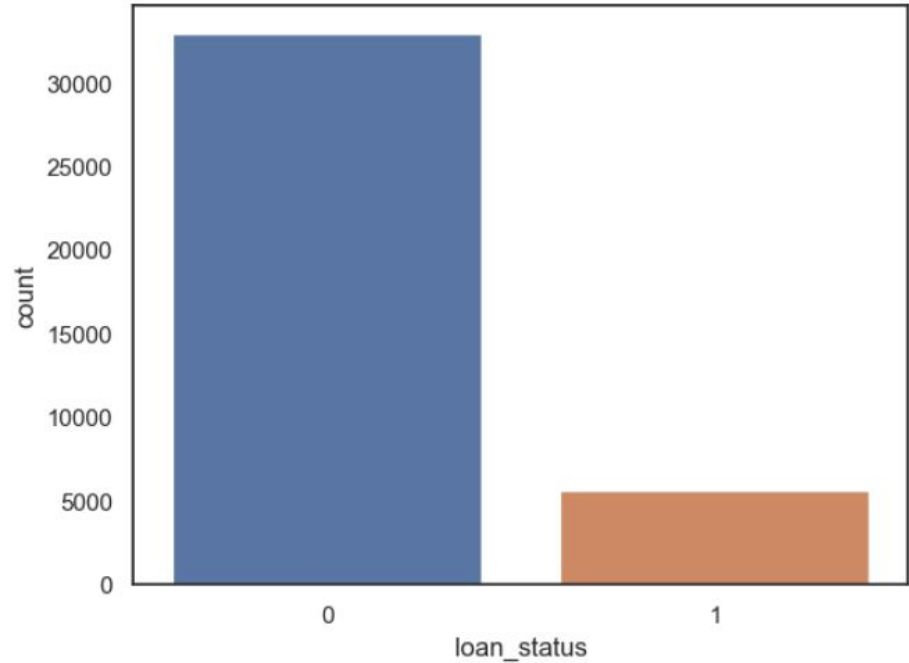
Count Plot of Grades

This graph shows that grades of A,B,C are greater than the other grades.



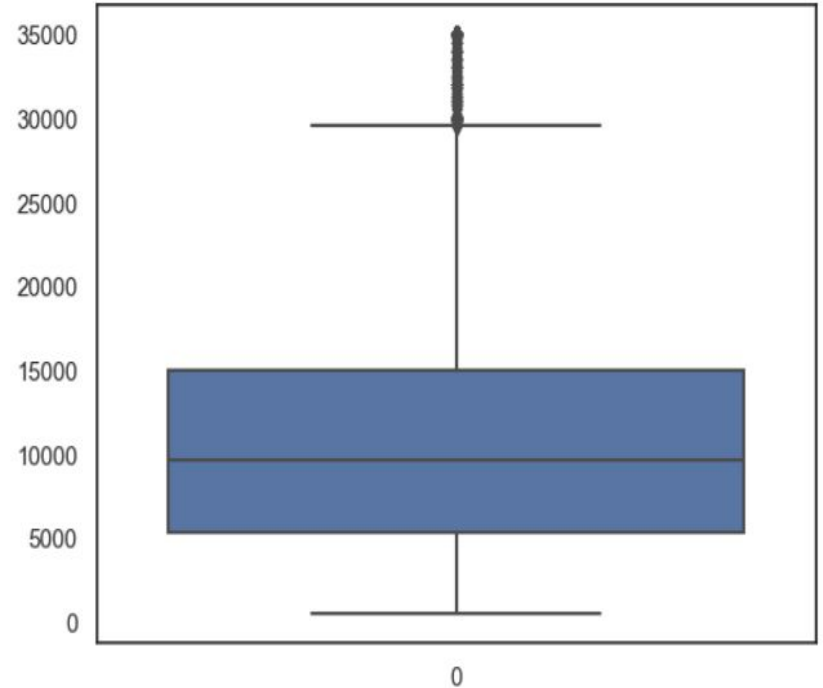
Box Plot of Loan Status

This graph shows that the loan status of fully paid is greater than the charged off.



Box Plot of Loan Amount

This graph shows that the loan amount is between 5k to 20k.



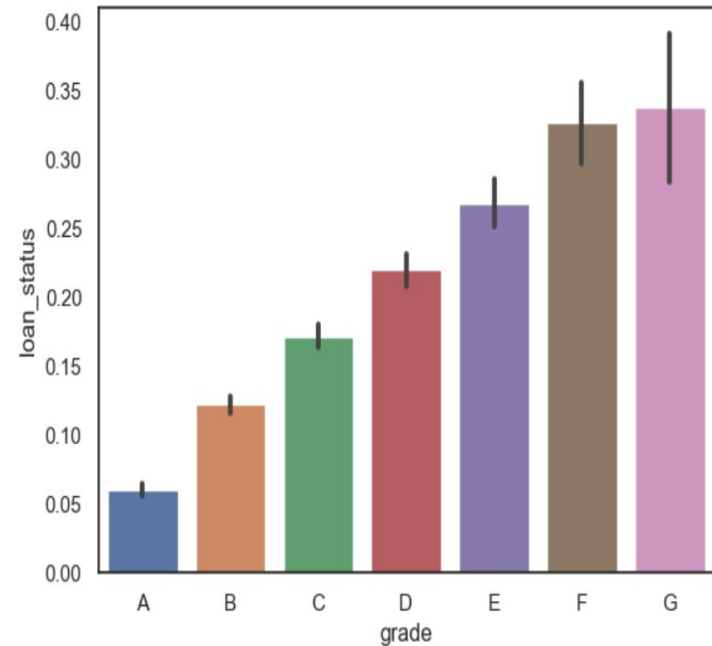


BIVARIATE ANALYSIS



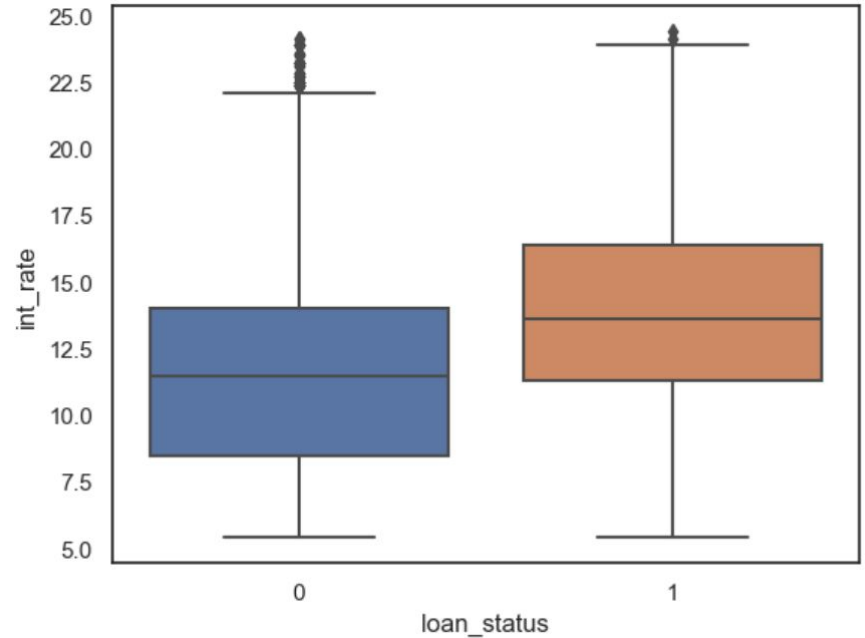
Plot of default rates across grade of Loan

This graph shows that as grades moves from A to G linearly from Fully paid to Charged off where A-G are the grades.



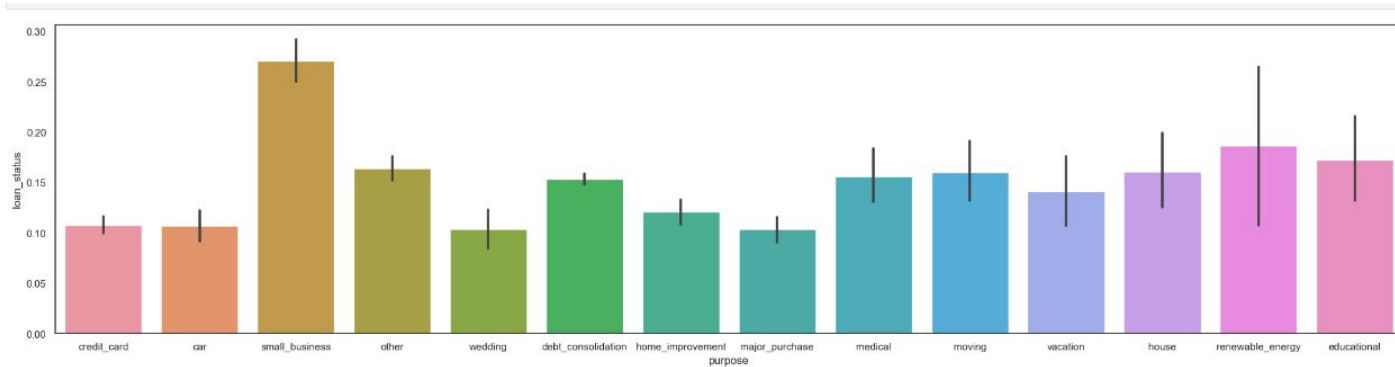
Box Plot between Interest rate and Loan Status

This analysis shows that as interest rate increases than chance of charged off and loan status also increases.



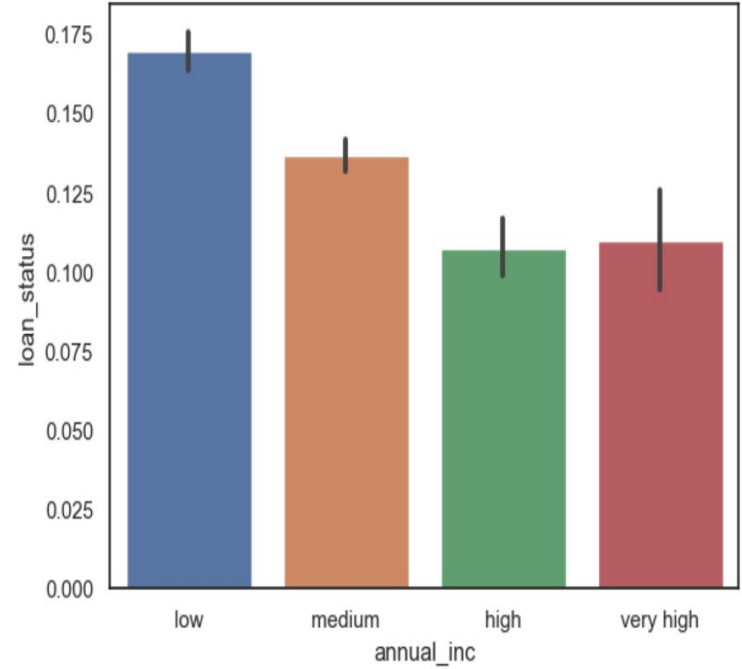
Plot of Purpose of loan and loan status

This analysis shows that if purpose of loan is small business than the chance of charged off loan status are more than the other purposes.



Plot of Annual Income

This analysis shows that if the annual income is low than the chance of charged off loan status also increases.



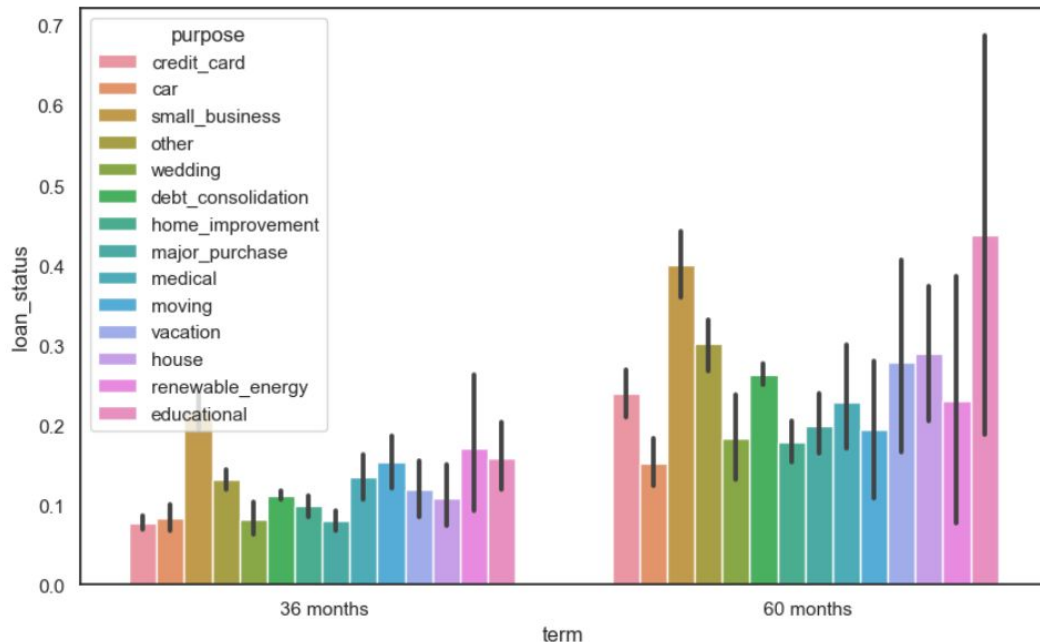


SEGMENTED BIVARIATE ANALYSIS



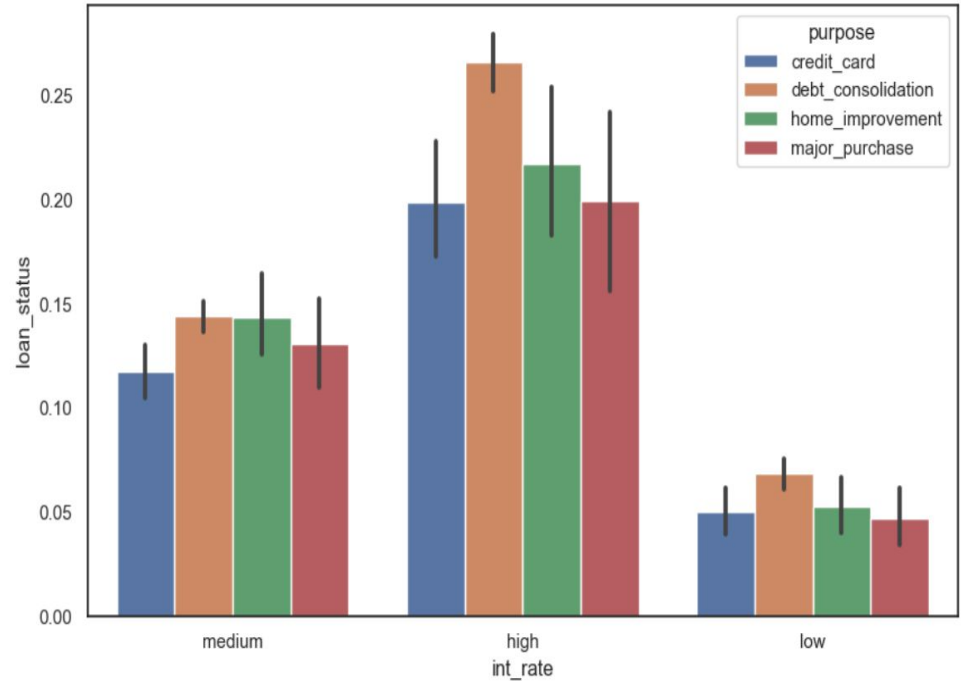
SEGMENTED BIVARIATE ANALYSIS

This analysis shows that if term is increases than the chances of charged off also increases.



SEGMENTED BIVARIATE ANALYSIS

This analysis shows that if interest rate is increasing with purpose of debt consolidation than chance of charged off loan status also increases.



CORRELATION HEATMAP

Heatmap shows that the loan amount is directly related to funded amount, funded amount investment and installments and loan status depends on interest rate, loan amount, funded amount, funded amount investment and installments.

