



LENDING CLUB LOAN ANALYSIS

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Agenda

- Identifying the Business Problem
- Business Objectives
- Approach
- Results – Univariate, Bivariate, Multi-variate Analysis
- Recommendation & Conclusion



Business Problem

- Identify the risky loan applicants, so that such loans approvals can be reduced which will cut down the amount of credit loss.
- Identification of such applicants by using EDA to understand how consumer attributes and loan attributes influence the tendency of default.

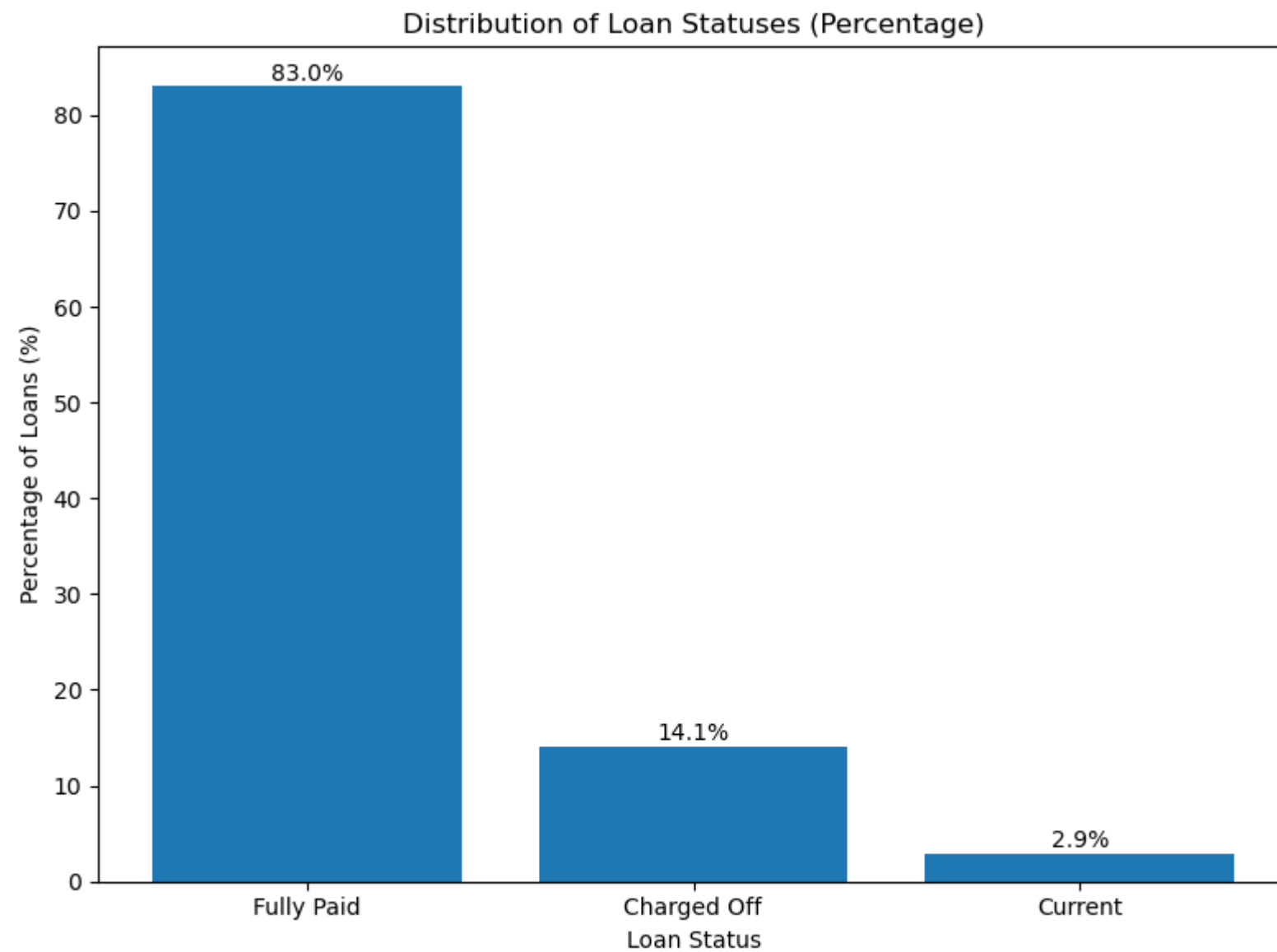
Business Objectives

- Objective is to identify the risky loan applicants at the time of loan application so that such loans can be reduced thereby cutting down the amount of credit loss.
- To understand the driving factors (or driver variables) behind loan default, the variables which are strong indicators of default.
- The company can utilize this analysis for risk assessment. And thus minimize the risk of losing money while lending to customers.

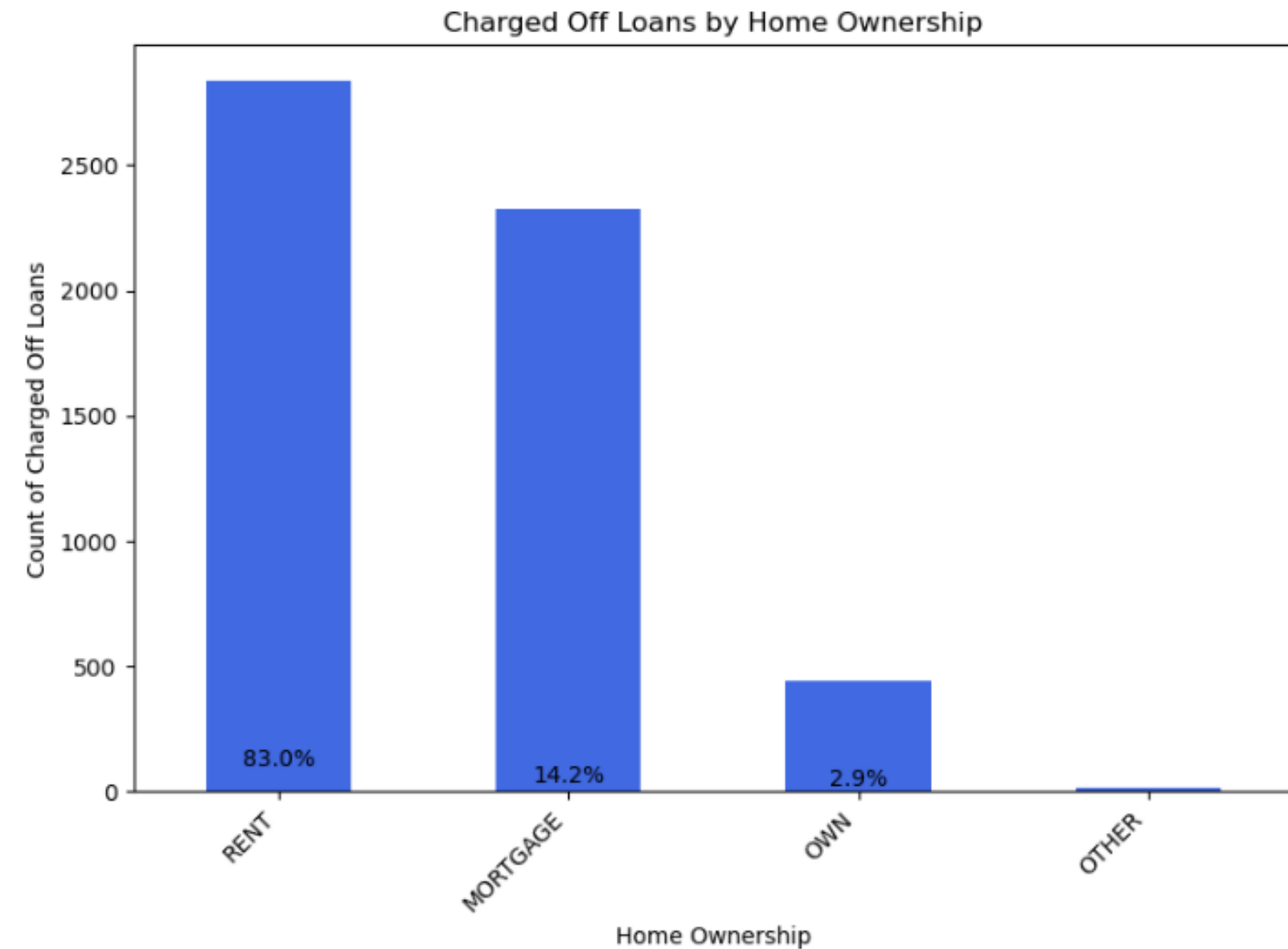
Approach

- Data Review and Cleaning
- Missing/Null values identification
- Outlier observations
- Elimination of unrequired data elements & consolidation of dataset
- Univariate Analysis : Categorical and numerical
- Bivariate Analysis and observation
- Correlation analysis and observations
- Conclusions & Recommendations

Univariate & Segmented Univariate Analysis



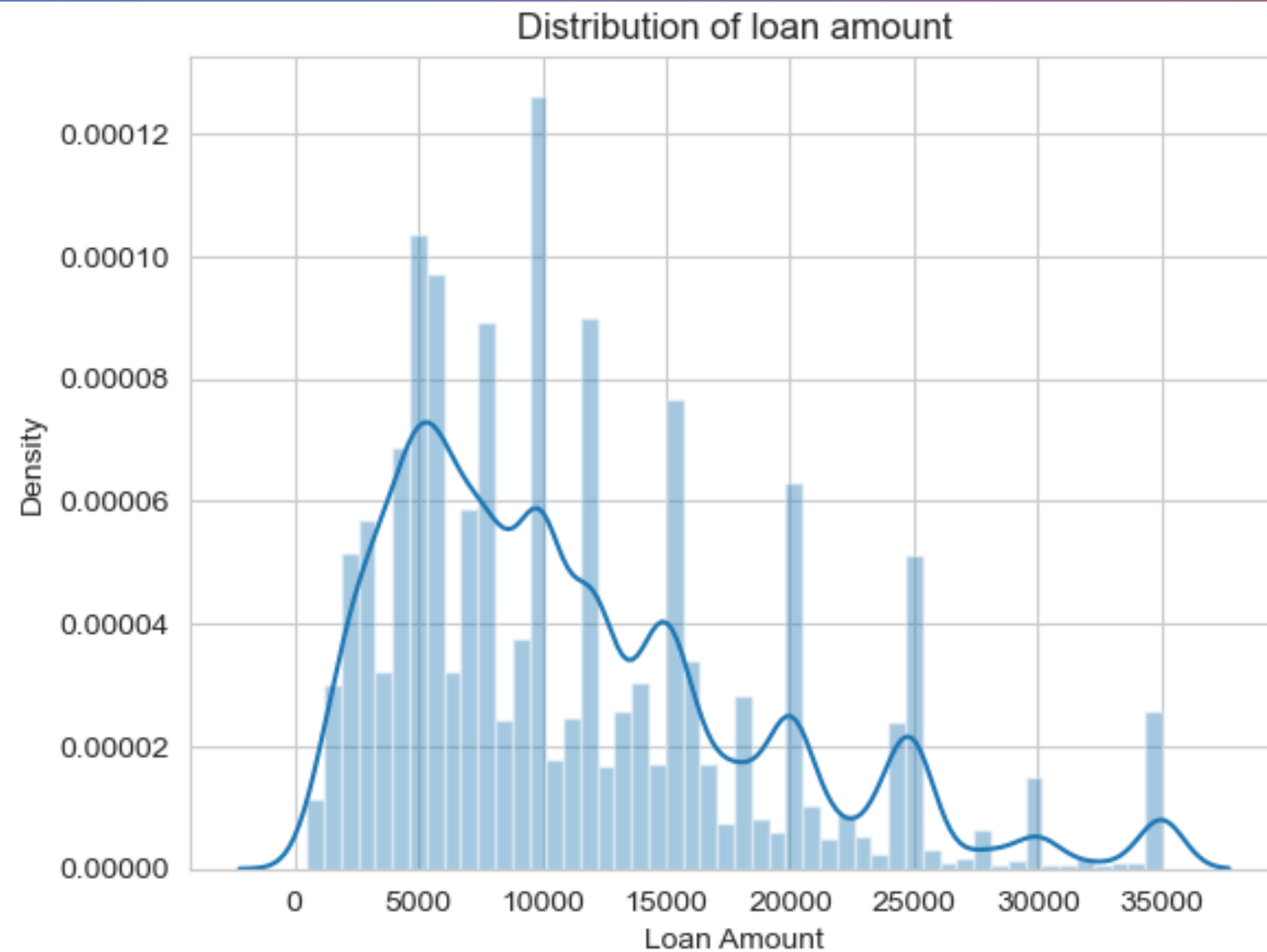
Loan Status:
The Charged off loan status Stands at 14.1%



Home Ownership:

- Based on the above graph, most of them are living in rented home or mortgage their home.
- Charged off Loans is higher under Rent.

Univariate Analysis - Loan Amount



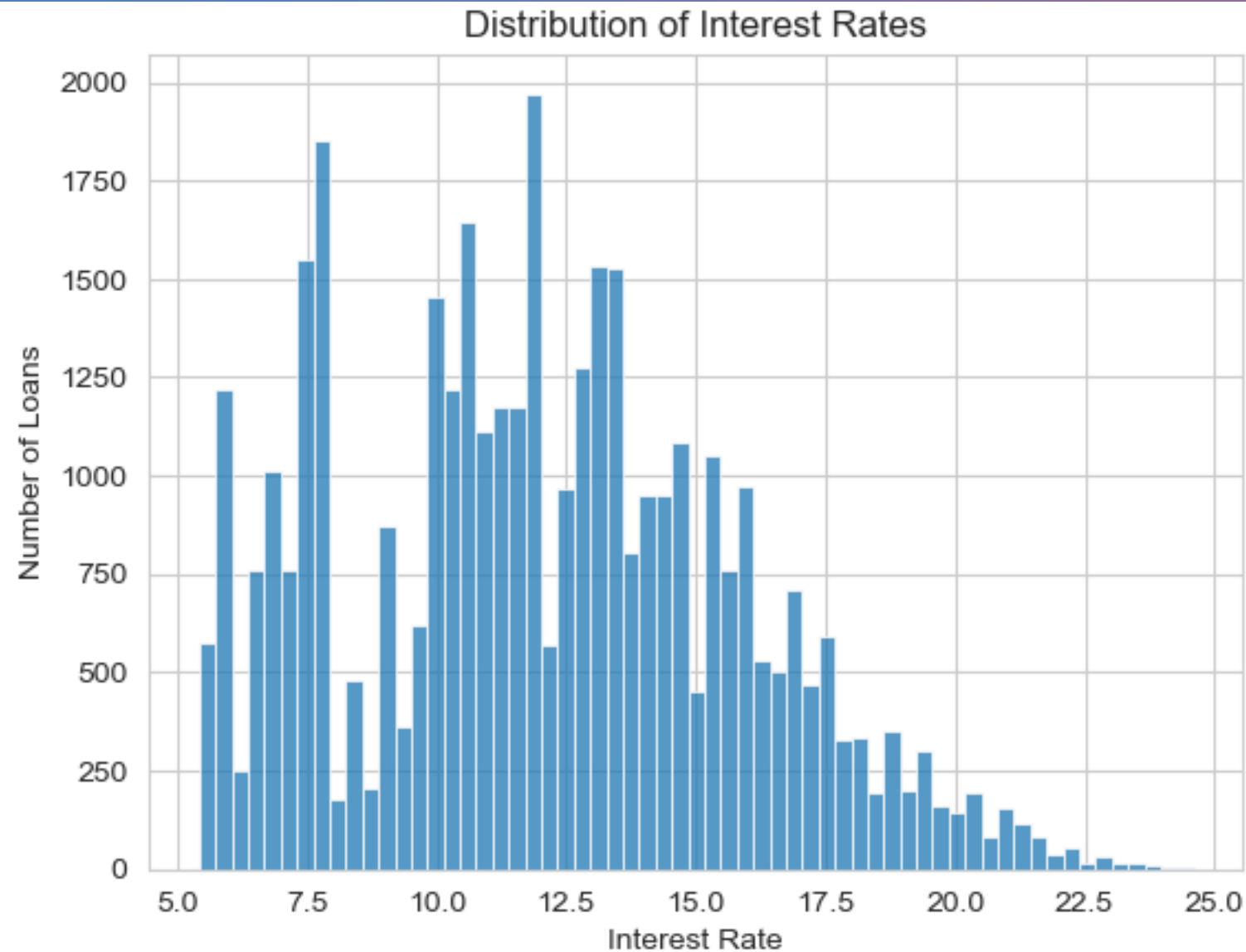
We can see from the graph that the distribution of loan amount considered is high in between 5000 to 15000. This implies, borrowers applying for loan around this range.

Univariate Analysis - Loan Terms 36 & 60 months

We can see that 36 months term have more distribution



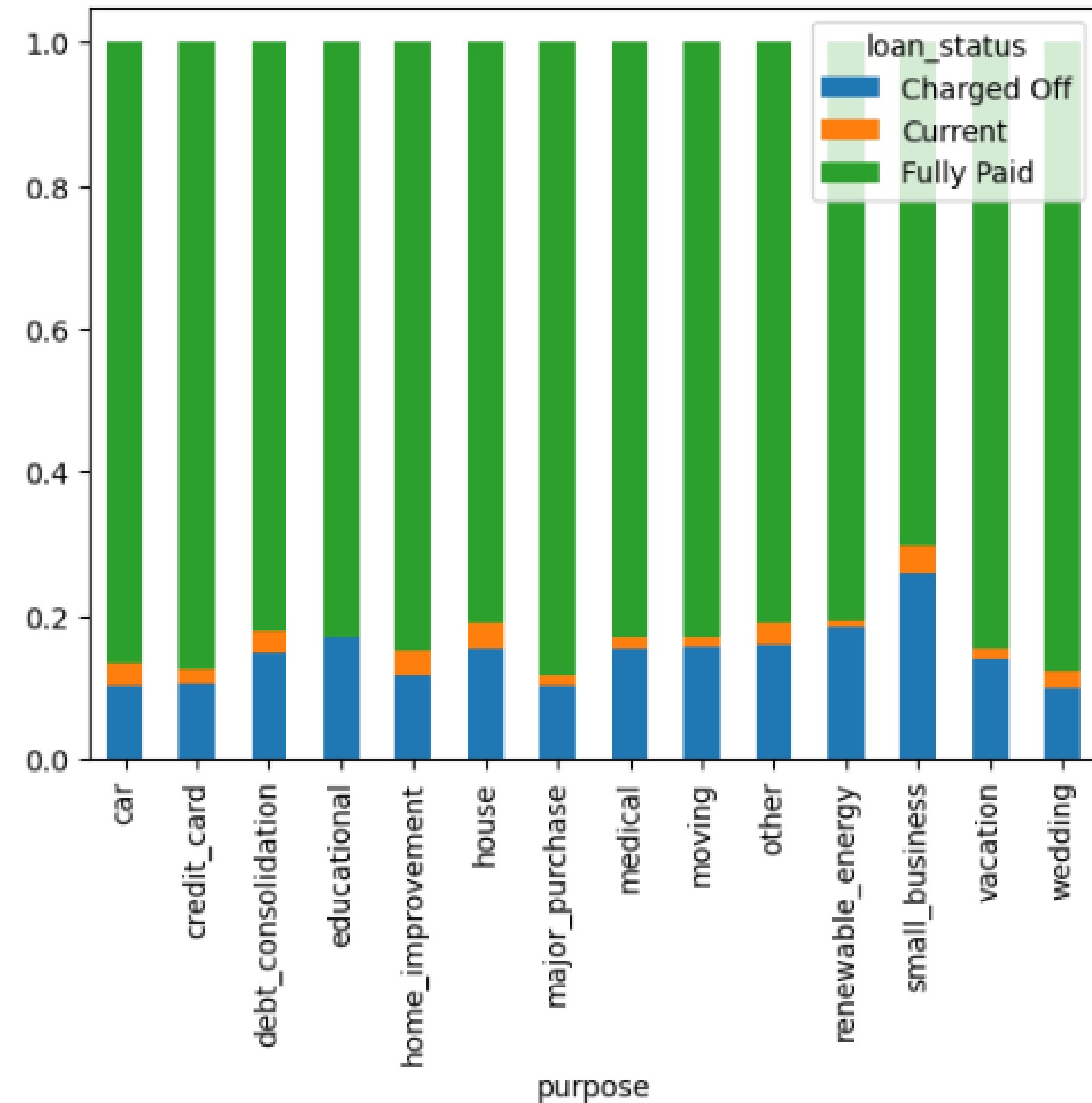
Univariate Analysis - Loan Interest Rate



We can see that from the graph, the number of loans given at the interest rate of 10-15% were more.

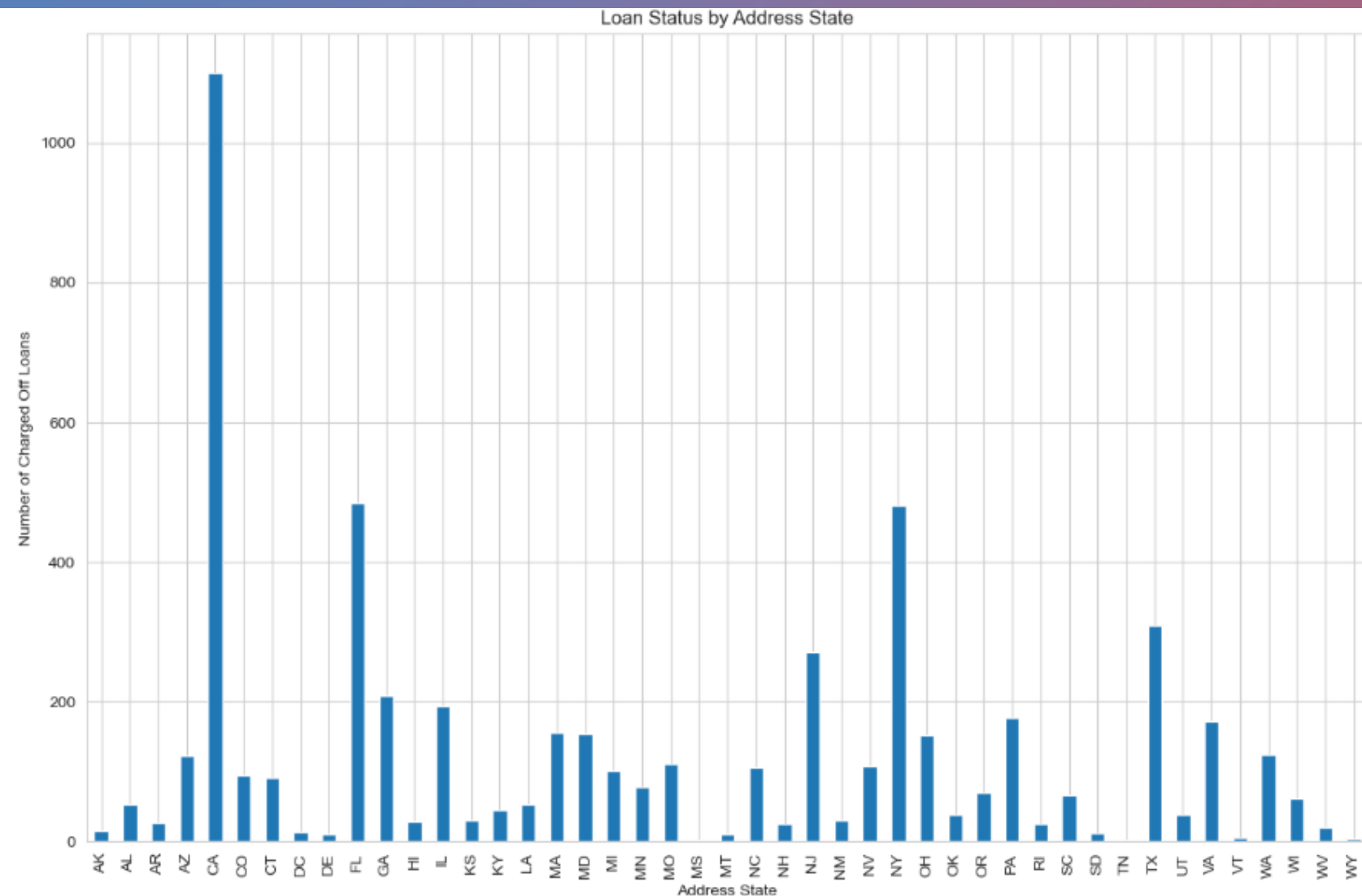
Bivariate Analysis – “Purpose” Variable

The charged off is higher under loan purpose “small business” with respect to the sum of loans per category.



Bivariate Analysis - Address States

We can see that, in the CA,FL,TX & NY states, have higher charged off loans.

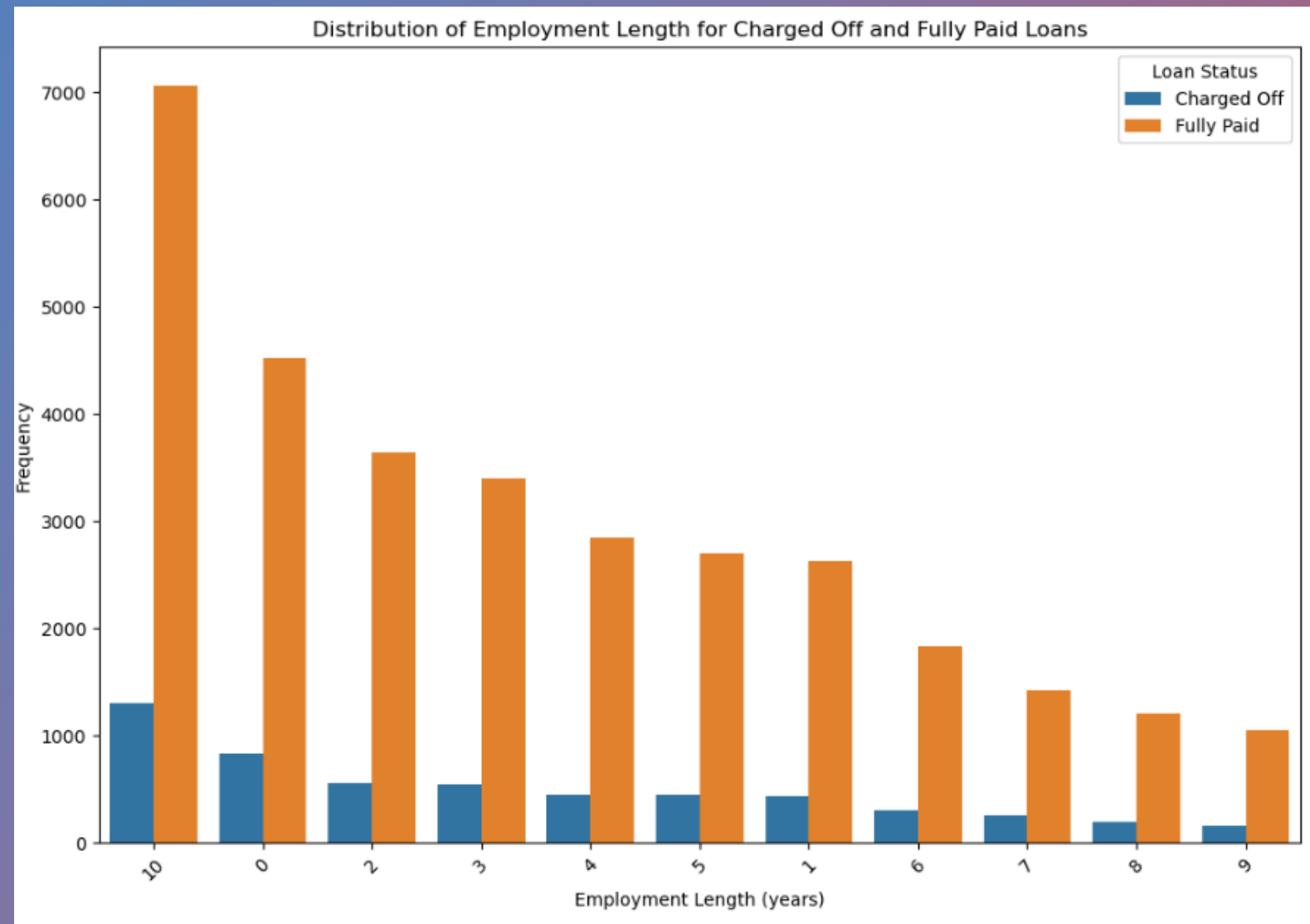


Bivariate Analysis - Loan Grade

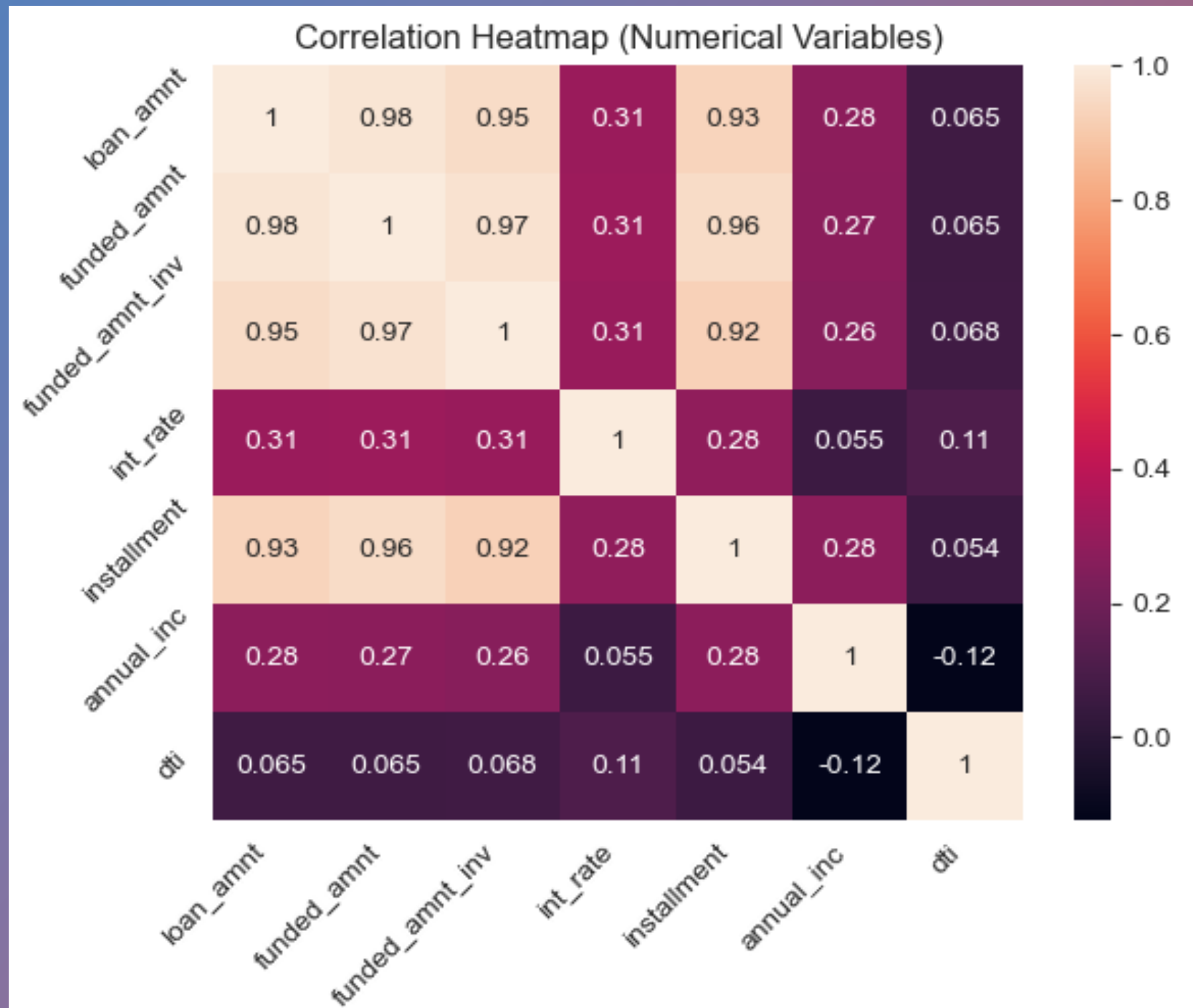
The Charged Off applications were high in the Grade B as we can see from the graph.



Bivariate Analysis - Employment Length



Mostly 10+ years of experience employer have chances to be a defaulters and then next we have < 1 year experience borrowers who are more likely been defaulters.



Multivariate Analysis - Heatmap

- Loan amount, investor amount, funding amount are strongly correlated.
- Annual income and dti (-0.12): This is a weak correlation, and it suggests that as annual income increases, the DTI tends to decrease slightly, but the relationship is not strong.

Conclusion & Recommendations



Grades is considered as the one of the factor affecting in increase defaulters. The company should focus on reviewing the information provided by the borrowers in more detailed manner before issuing the loan.



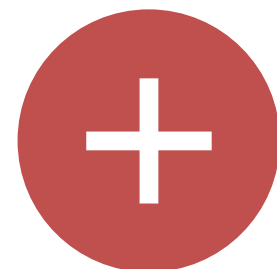
Company should reduce giving loans to small business and debt consolidation since the defaulters are high under for purpose of loan applications.



Borrowers with Rent home ownership are defaulting. Company should consider other factors while approving the loan. Factors such as annual income, experience etc.,



Company should re-evaluate before issuing the loans to CA,FL,TX & NY status to increase the profit.



Employee experience with 10 + yrs and less than 1 yrs have chance of moving to defaulters. Company should look to re-check on other factors before approving loan to such requests.

THANK YOU