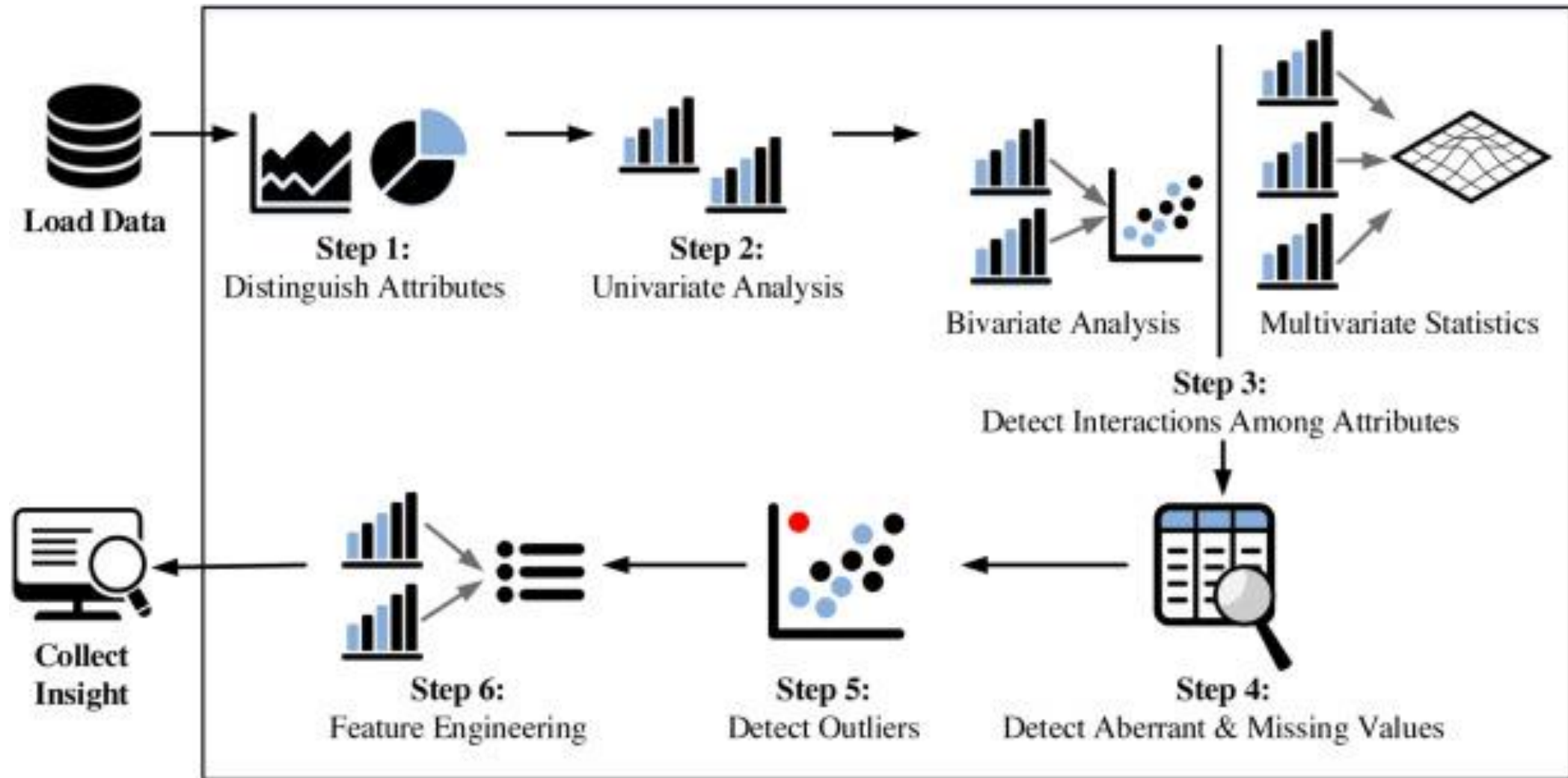




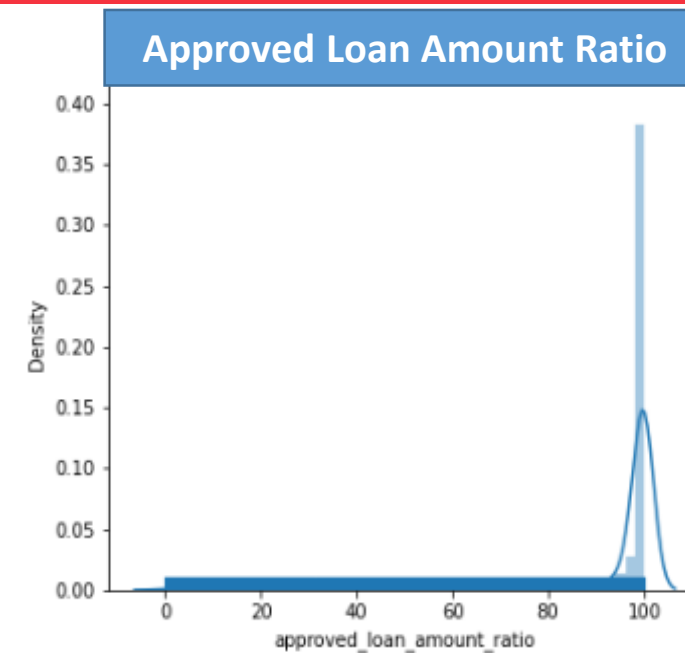
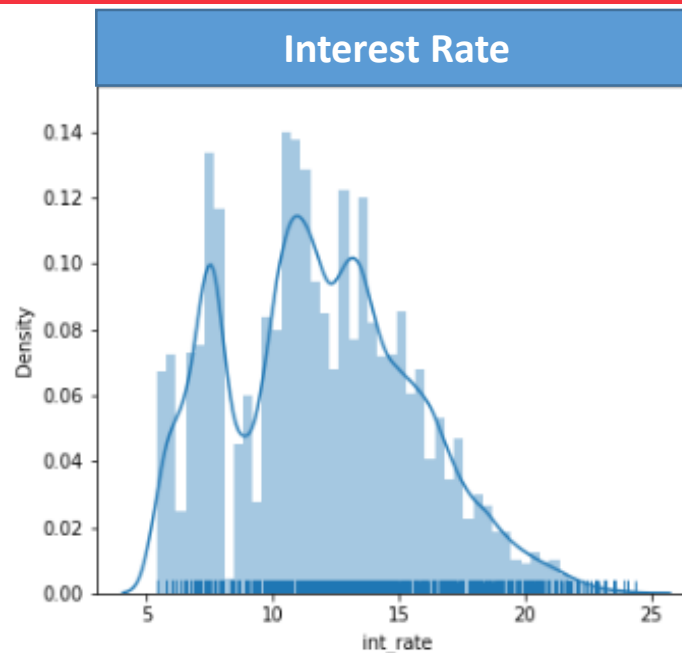
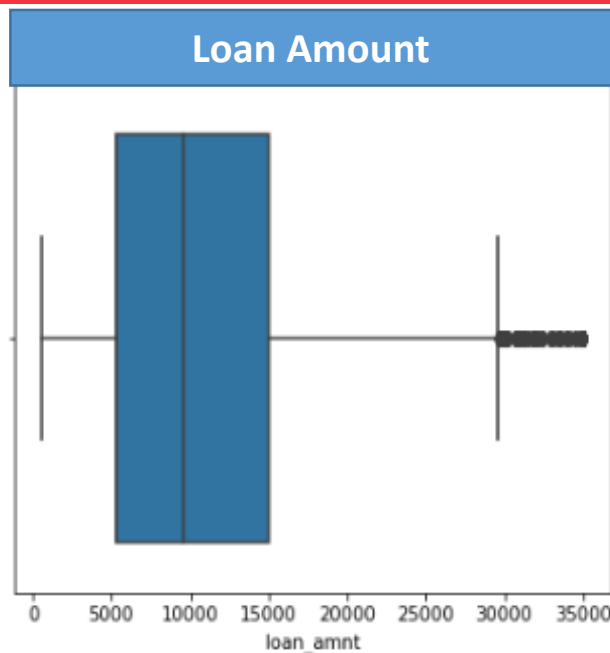
Lending Club: EDA Case Study

By,
M M Veereshkumar
Shikhar kushwaha

- ❖ Lending Club is the largest online loan marketplace, facilitating personal loans, business loans and financing of medical procedures
- ❖ Borrowers can easily access lower interest rate loans through a fast online interface
- ❖ The objective of this analysis is to identify the driving factors behind loan default

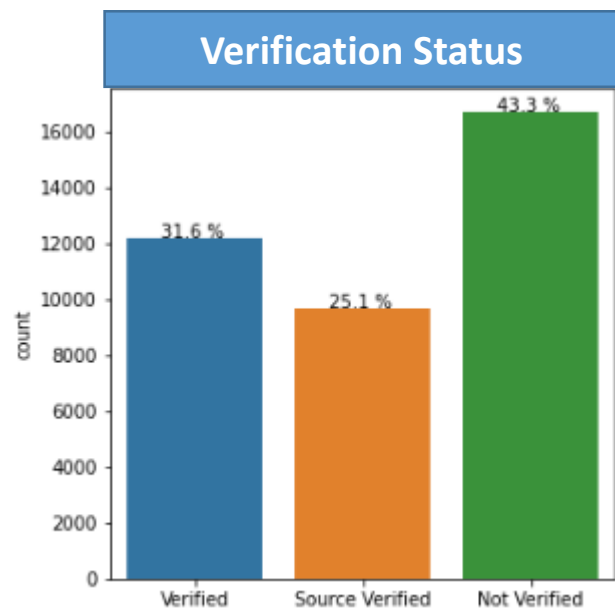
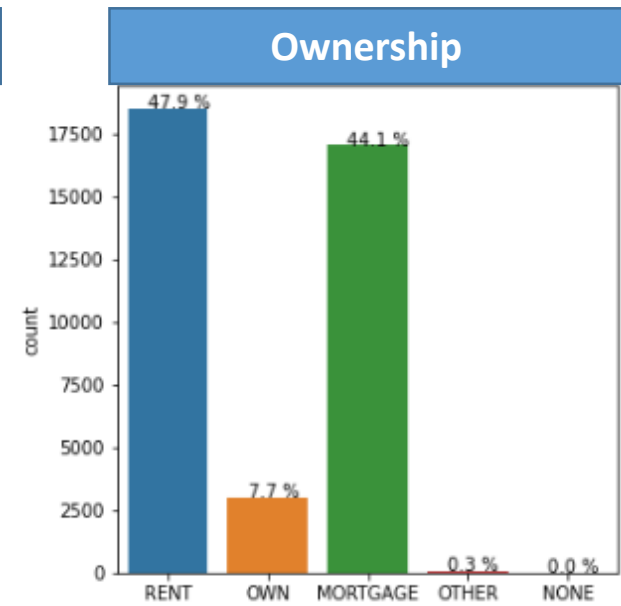
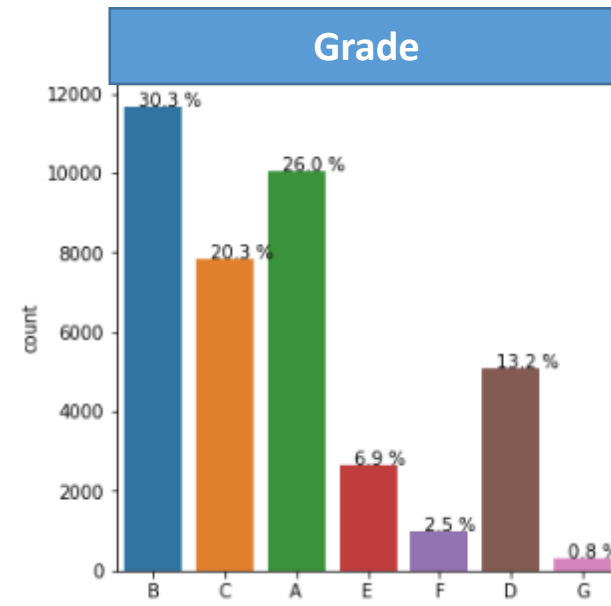
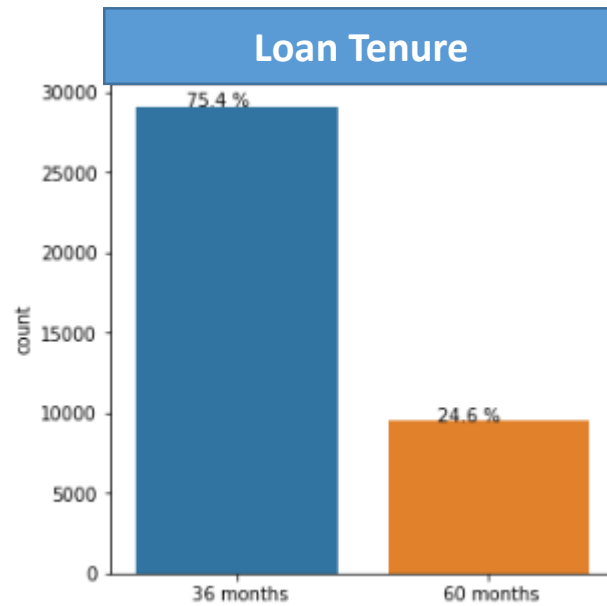
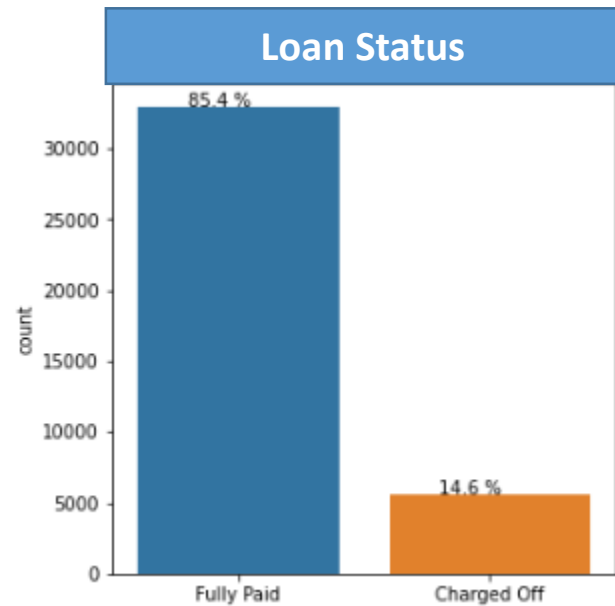


- ❖ Loan data for all loans issued through the time period 2007 to 2011
- ❖ **39,717** loan records and **111** features/variables
- ❖ **1,140** loan records are for currently running loans. Not considered for our analysis
- ❖ **54** variables are completely of no data
- ❖ **9** variables are with single type of record in the data
- ❖ After removing the missing and not useful variables, we left with **38,577 records** and **40 variables**



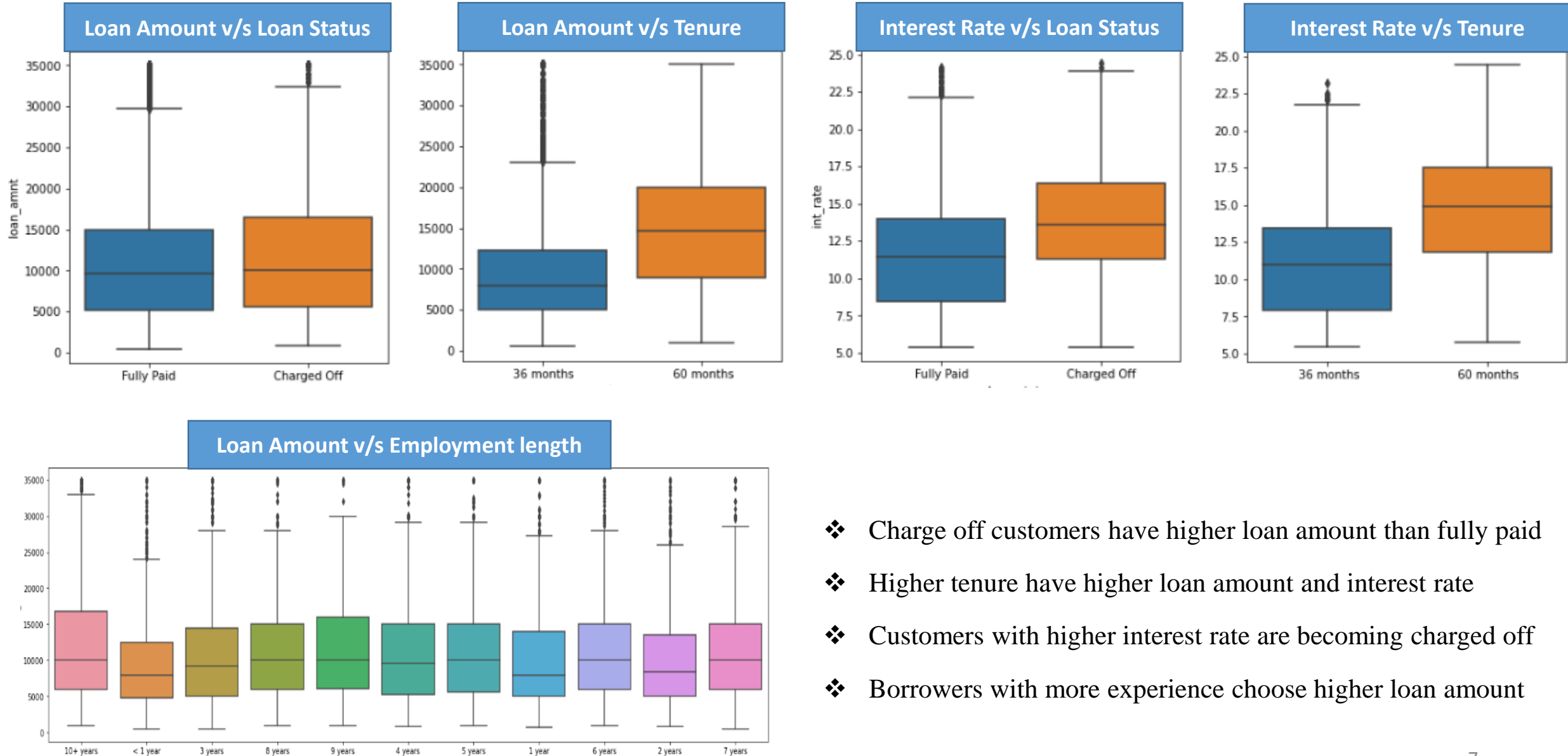
- ❖ Nearly half of the population took the loan of about 10K USD. Only 5% of applicant are taking 25k+ USD
- ❖ Lending club offering most of loans with the interest rate ranging between 9% to 14%. Maximum interest charged is about 22.5%, after excluding outliers
- ❖ 70% of borrowers got at least 99% of requested loan amount
- ❖ All the loans are given to borrowers have Debt to Income ratio less than 30. Looks like normal distribution

Univariate Analysis – Categorical Data

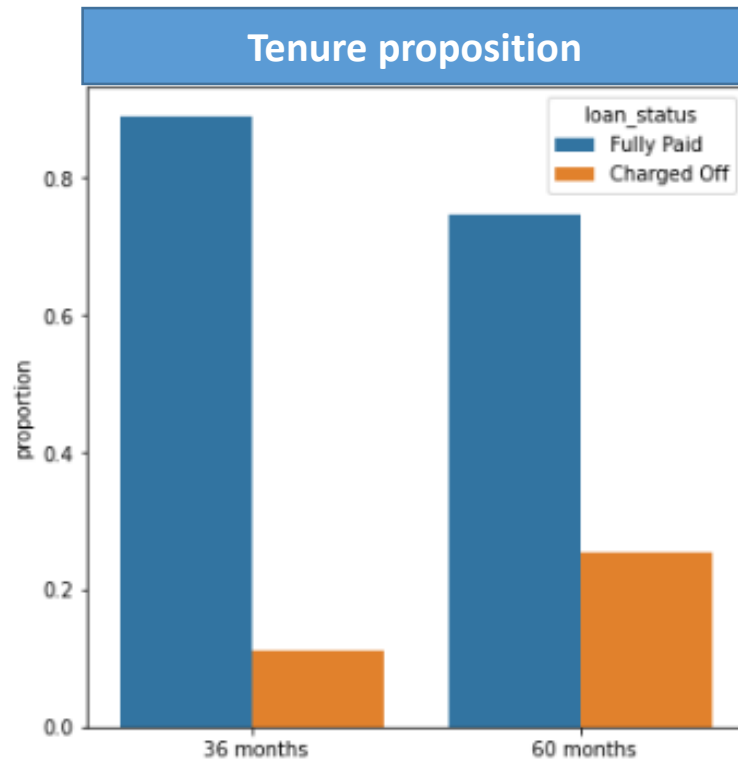


- ❖ 85% of the borrowers paid the loan fully. 14% are charged off or default
- ❖ 3/4th of the borrowers are taken 36 months tenure loans
- ❖ More than 75% of the borrowers are from grade A, B & C
- ❖ Most of the borrowers are having rented & mortgage houses
- ❖ Strange, 43% of the borrowers got loan with out verifications

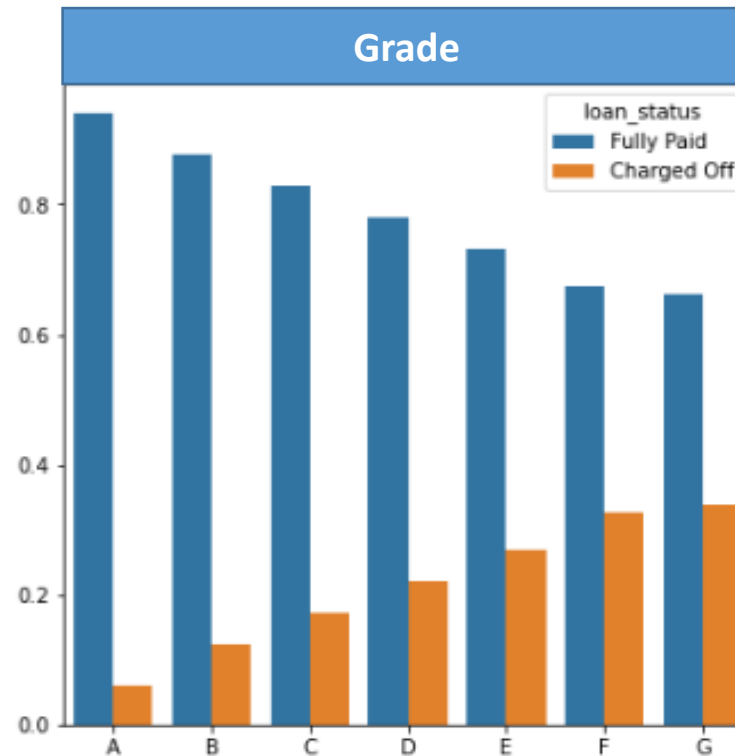
Segmented Univariate Analysis



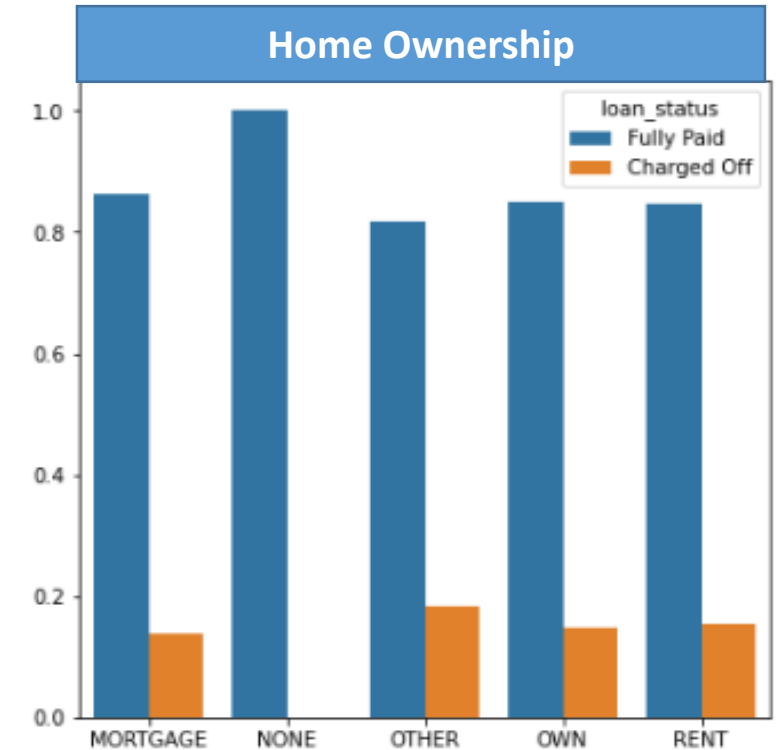
- ❖ Charge off customers have higher loan amount than fully paid
- ❖ Higher tenure have higher loan amount and interest rate
- ❖ Customers with higher interest rate are becoming charged off
- ❖ Borrowers with more experience choose higher loan amount



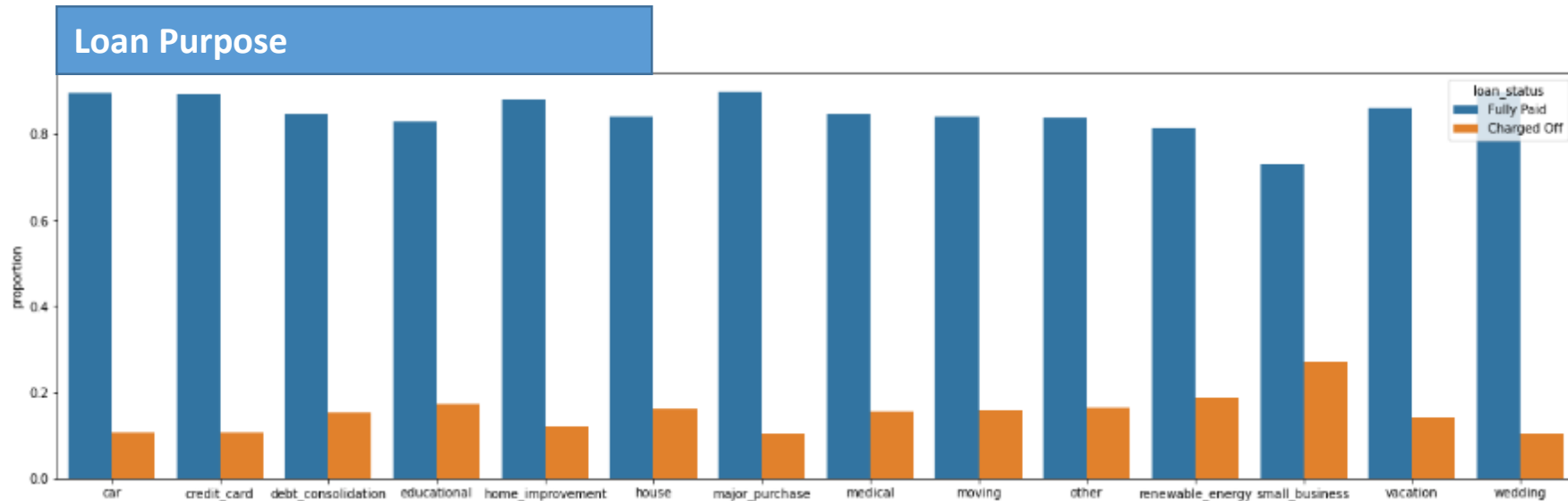
- ❖ More portion of charged off customers are with higher tenure and fully paid proportion is higher in 36 months tenure



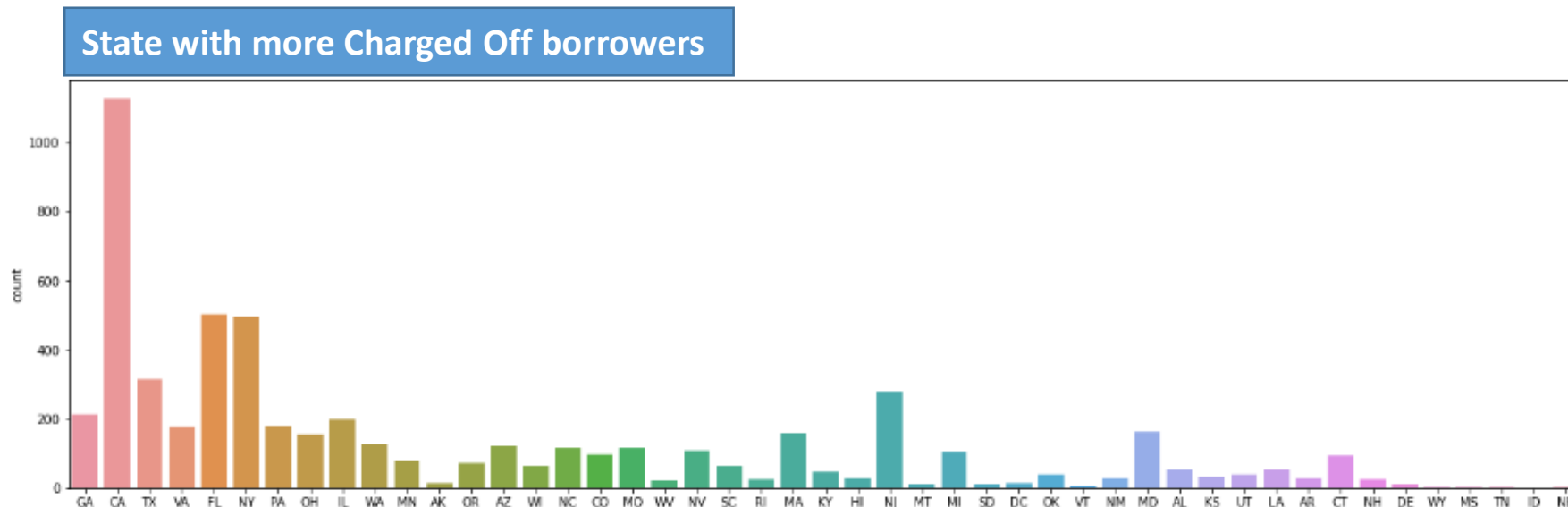
- ❖ The graphs clearly indicates, lower the grades, higher the proportion of charged off customers



- ❖ Except others category due to small volume, borrowers with mortgage and rent are higher in charged off



- ❖ Customers took loan for small business are getting charged off more



- ❖ CA, FL and NY states have more Charged off customers

- ❖ Interest rate on higher tenure (60 months) loans has to be reduced further to control the default rate
- ❖ Strong correlation has been observed between public derogatory and public bankruptcies. Lending club should not give any loans to customers with public derogatory records
- ❖ Loans given to Small business are tend to default more. LC should reduce or not give loan to this segment
- ❖ Lower the grades, higher the proportion of charged off customers. Take more information and actions before issuing loans to lower grade category
- ❖ Mortgage home ownership are taking higher amount of loan and becoming default. Set the range for this category and limit to max 15k USD
- ❖ Lending club stop giving loan to NE and take extra caution while providing loans to CA, FL and NY cities
- ❖ Higher the interest rate more the charged off customers. Take action on fixing the interest rate for different category of loans



Thank You!