LENDING CLUB CASE STUDY

- Venkata Sreeleela Sappa

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Problem Statement and Objective

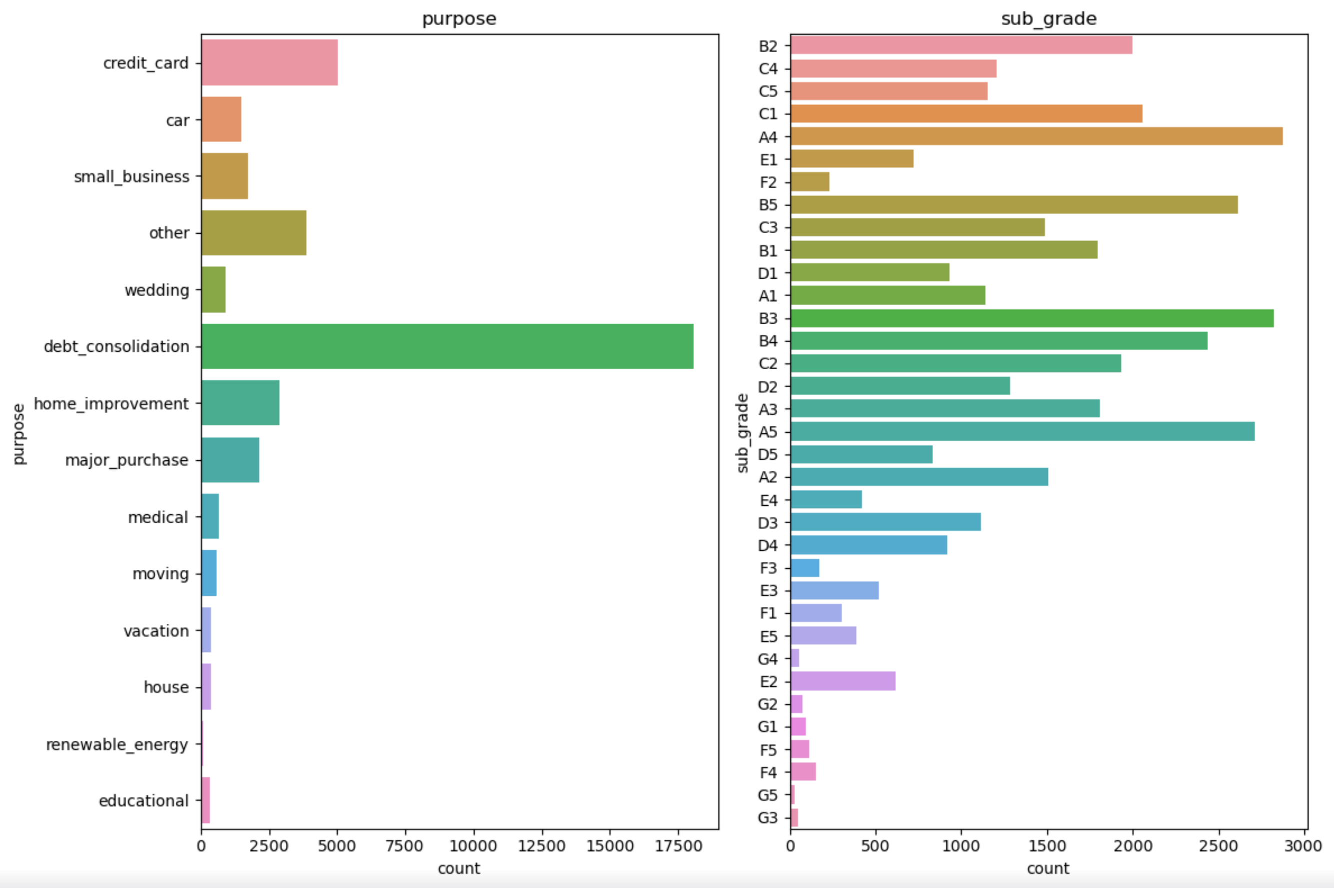
Lending a loan is risky decision that a company takes and the borrowers who default cause the largest amount of loss to the lenders, reduces lender's cash flow. Identifying those risky applicants helps in cutting down the amount of credit loss to the organization.

The objective of this case study is to understand the driving factors (or driver variables) behind loan default, i.e. the variables which are strong indicators of default. So the company can utilise this knowledge for its portfolio and risk assessment.

Approach

- Data Cleaning/ Transformation
- Univariate Analysis
- Bivariate Analysis
- Multivariate Analysis
- Conclusion and Recommendation

Univariate Analysis for Categorical Variables



Observations on Categorical Variables

75% of the loans are for a term of 36 months.

Around 12.5% of the loans are defaulted

Percentage of income not verified users is high.It will be interesting to see its correlation with loan_status.

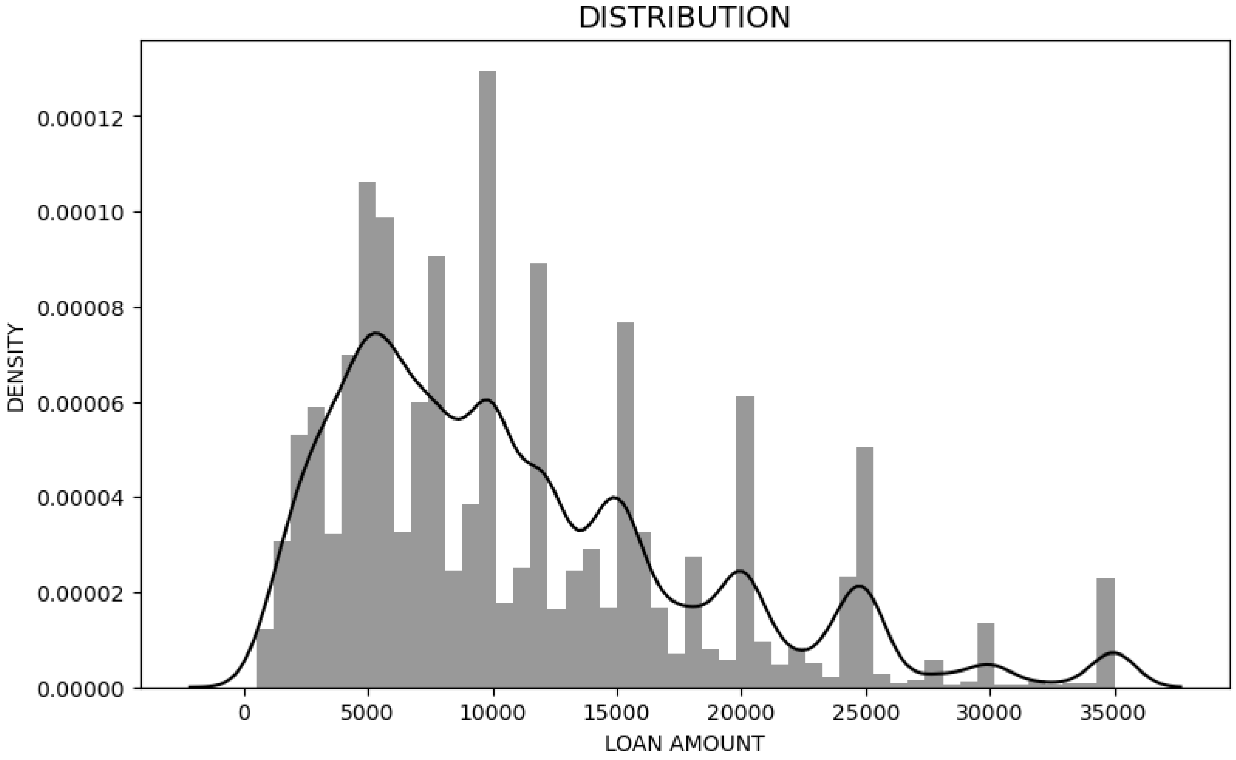
95% of the borrowers stay in RENT/MORTGAGE property.

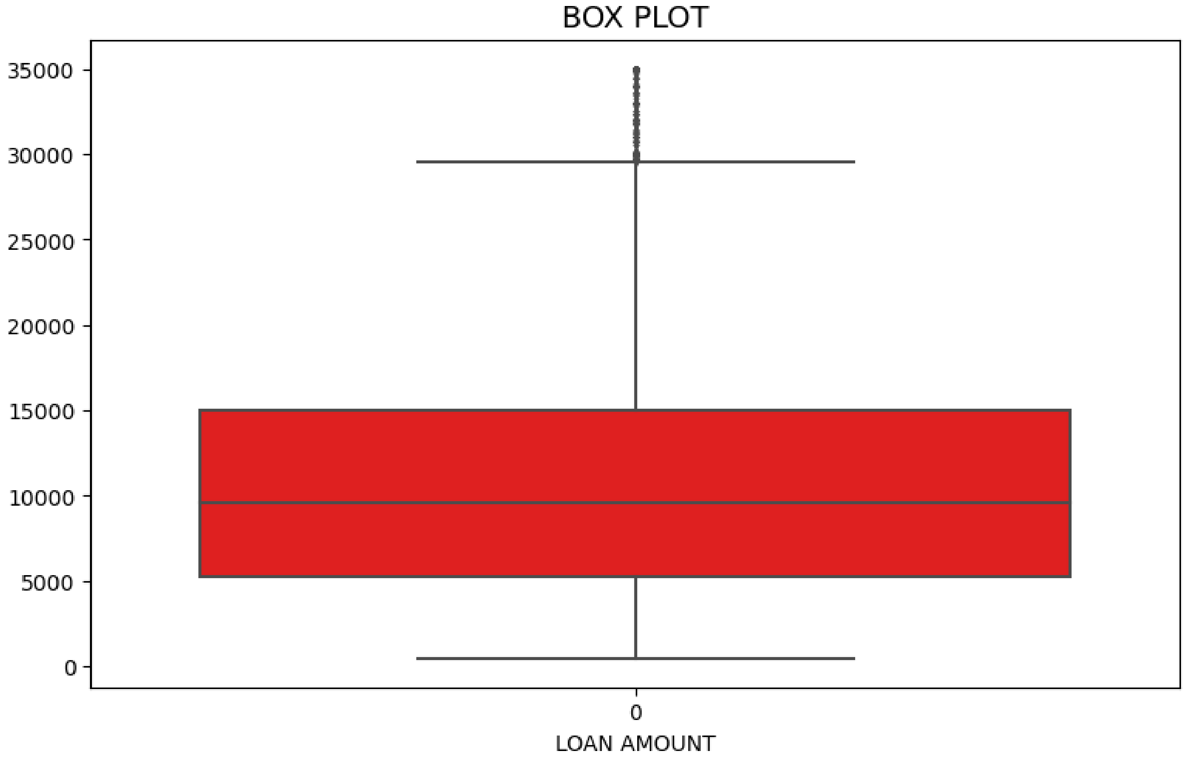
50% of the borrowers take loans for the purpose of debt consolidation

There are more borrowers with more than 10 years of employment length

Investors prefer to give loans to borrowers falling under grade A,B,C,D

Univariate Analysis for Continuous Variables





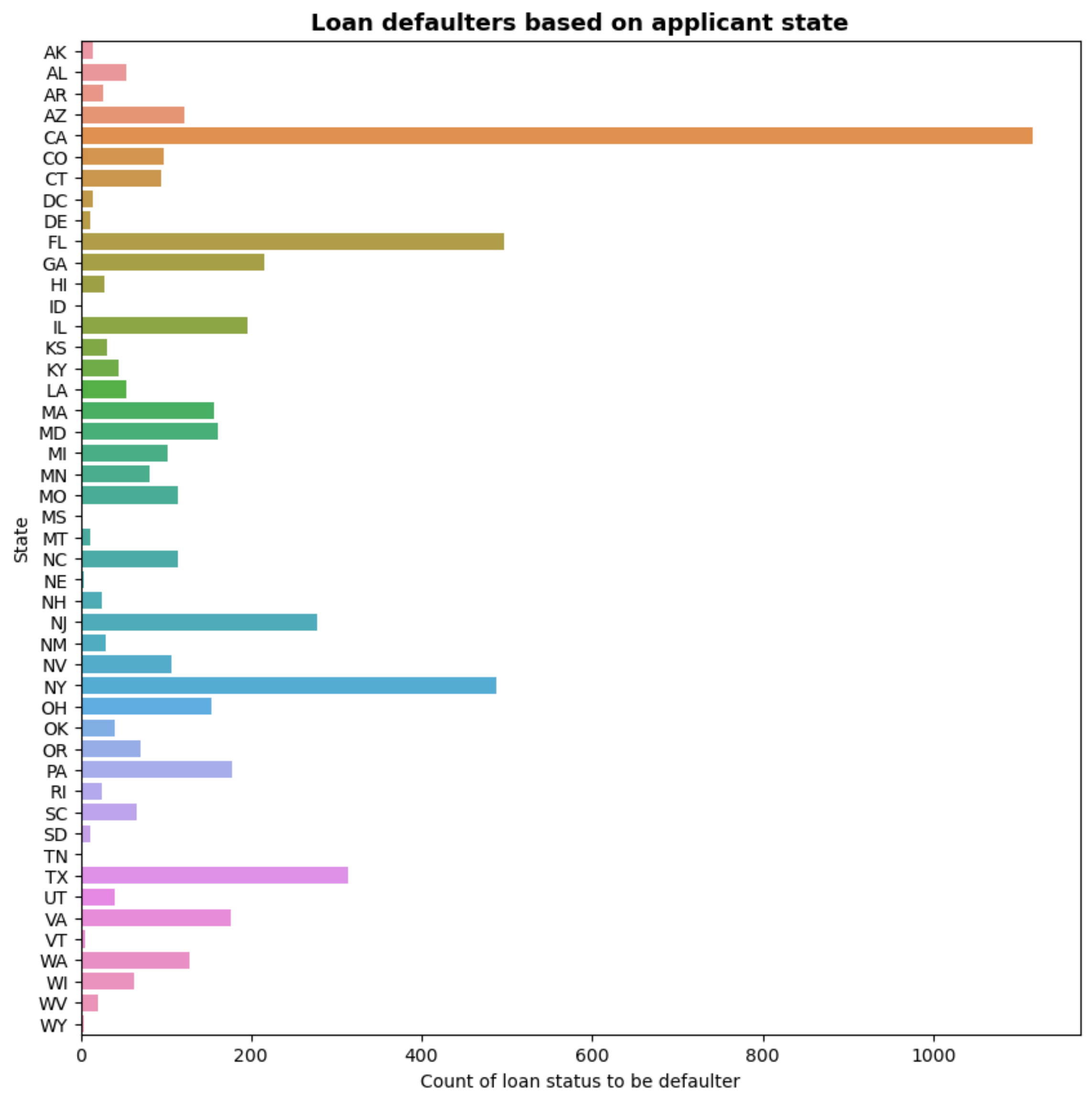
Observations for Continuous Variables

Most of the borrowers prefer to get loan amount between 5k to 15k.

The average interest rate is 12%

General tendency is to take loans below 15% interest rate.

Bivariate Analysis

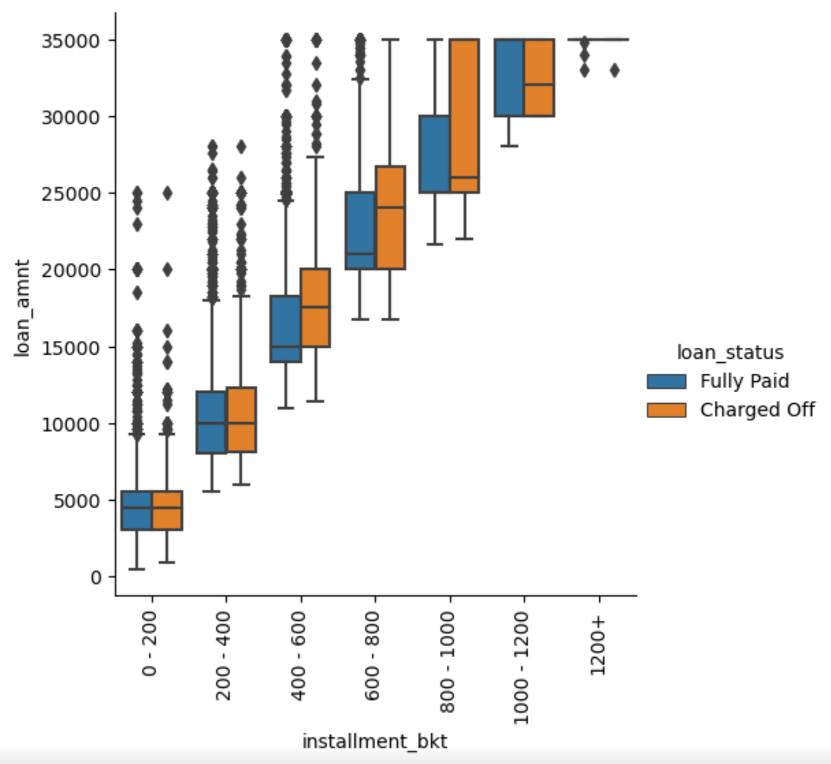


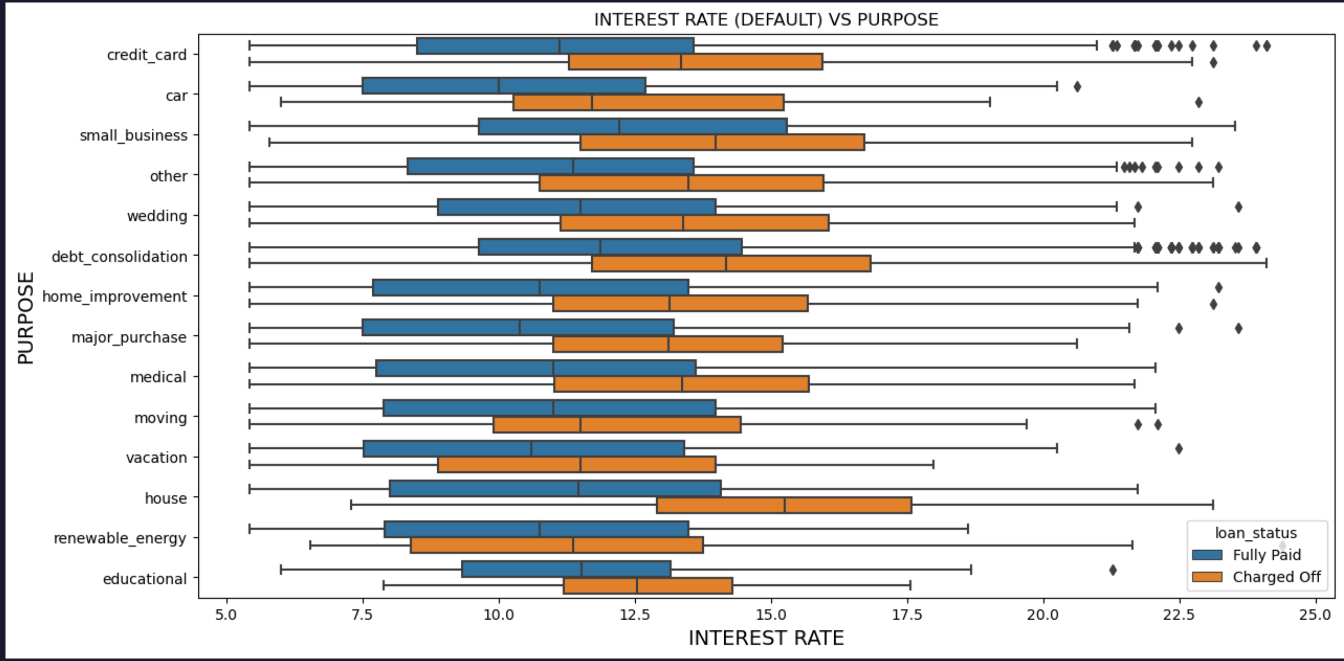
Observations for Bivariate Analysis

- Loans with term of 60 months have higher percentage of defaulting
- Loans with Borrowers having categories D and above have higher chances of defaulting
- pub_rec_banruptcies is a huge indicator of default
- As the number of inquiries in last 6 months increases, the chances of default increase.
- Debts taken for the purpose of small business have higher chances of defaulting(27%).
- dti,revol_util dint show prominent trends w.r.t defaulting
- addr_state CA had more defaults, but it is only because of more loans from CA state.

Multivariate Analysis

1. Interest Rate is a very huge factor in loan defaulting
2. Instalment Range 800 to 1000 the default rate is high
3. Loans between 10% to 15% interest rate are defaulted ,usually when term is 36 months. Loans between 13% to 18% interest rate are defaulted ,usually when term is 60 months





In conclusion, the 5 major driving factors for defaulters are:

Bankruptcies & Grade

Interest Rates

Instalment Range 800-1000

Small Businesses

Recommendations

Keeping a track of bankruptcies.

Setting interest rates to a minimum number by which a borrower can pay sufficient amount of money in the given duration of time.

Borrowers should pay the loan amounts with smaller instalments to avoid any defaulting.

We need to be more cautious while lending loans for the purpose of small business. Also, it will be better to avoid lending such loans in the near future.

THANK YOU