LENDING CLUB CASE STUDY

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ABSTRACT

Lending Club is a marketplace for personal loans that matches borrowers who are seeking a loan with investors looking to lend money and make a return. When the company receives a loan application, the company has to make a decision for loan approval based on the applicant's profile.

Two types of risks are associated with the bank's decision:

• If the applicant is likely to repay the loan, then not approving the loan results in a loss of business to the company

• If the applicant is not likely to repay the loan, i.e. he/she is likely to default, then approving the loan may lead to a financial loss for the company

So, company wants to understand the driving factors (or driver variables) behind loan default, i.e. the variables which are strong indicators of default. The company can utilize this knownledge for its portfolio and risk assessment.

PROBLEM SOLVING METHODOLOGY

Data Understanding
- Data Dictionary Understanding
- Know domain specific uses

Data Cleaning
- Removing Null values
- Derived variables

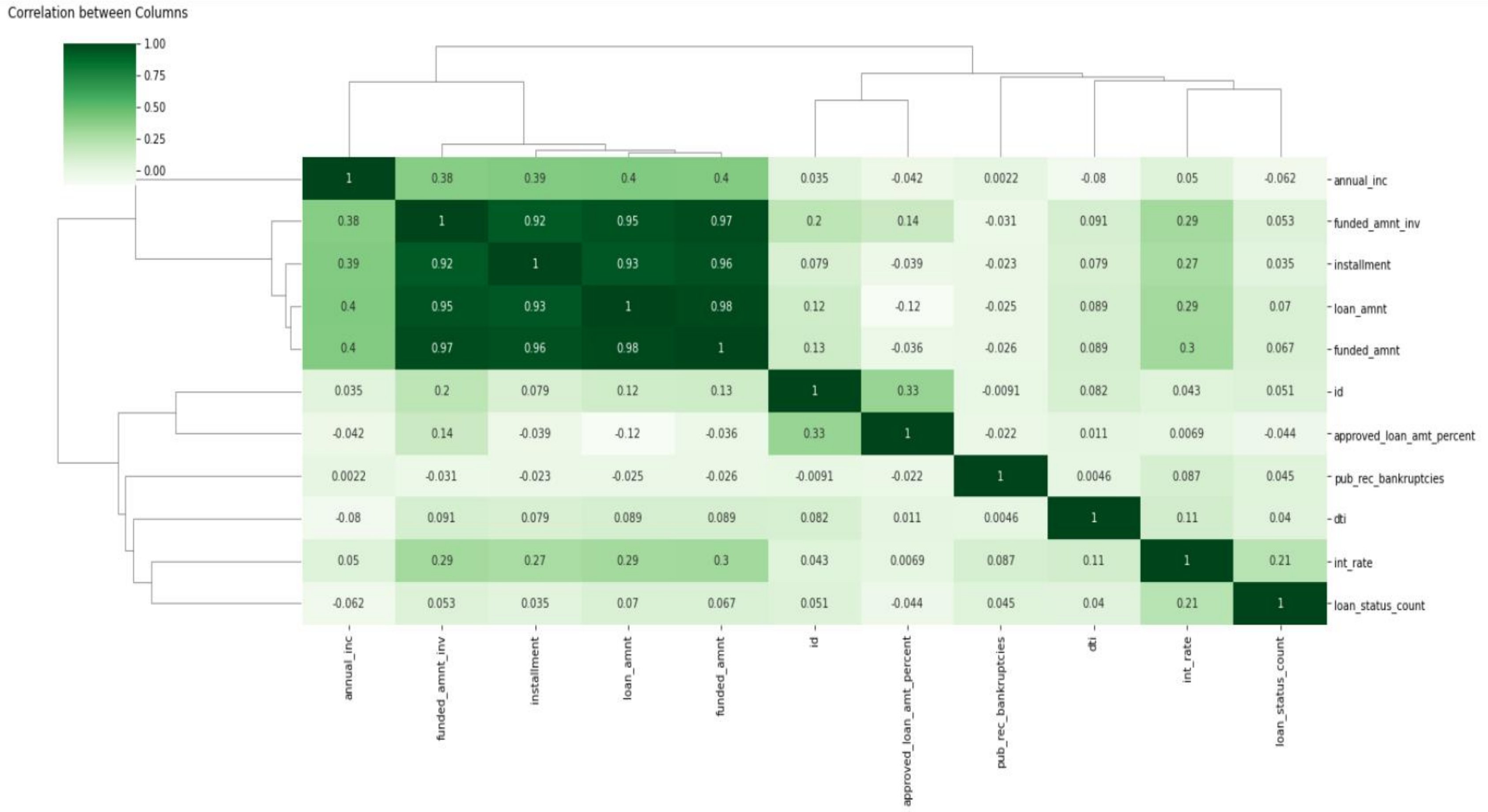
Univariate Analysis
- Analysis each column
- Plot distribution

Segmented Univariate Analysis
- Analysis continuous data column w.r.t categorical column

Bivariate Analysis
- Analysis two variable behaviour

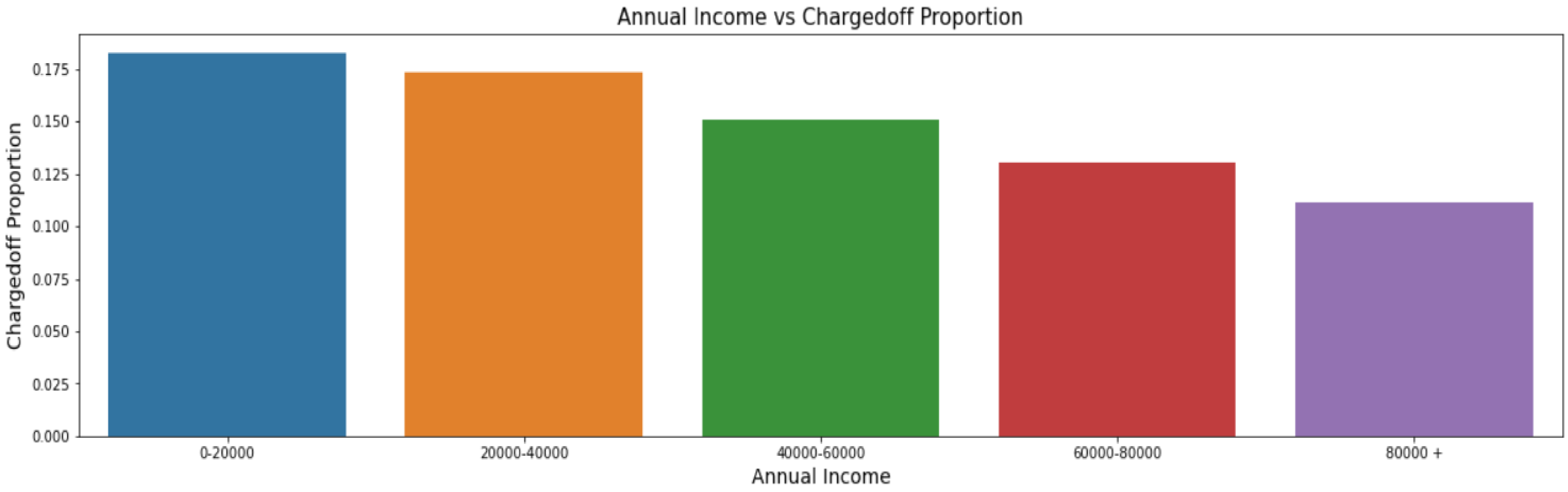
Recommendations
- Provide recommendation after Analysis

ANALYSIS



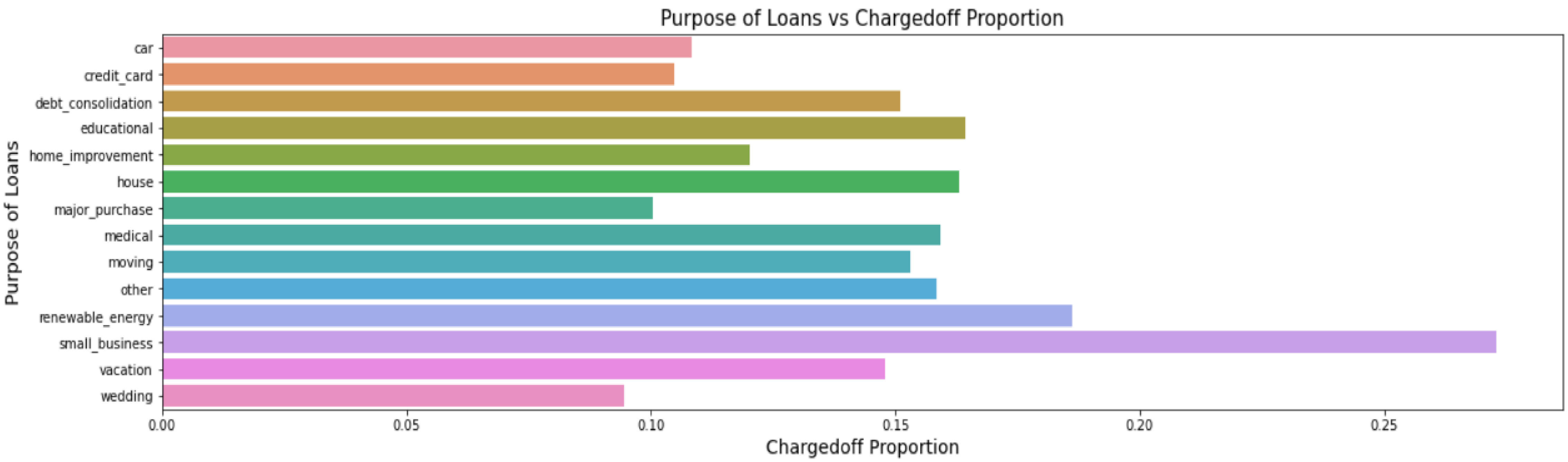
- loan_amnt , funded_amnt , funded_amnt_inv , installment are strongly correlated.
- annual_inc and dti is negatively correlated.
- Debt income ratio is the percentage of a borrower's monthly gross income that goes toward paying debts.
- Which means when annual_inc is low, debt is high and vice versa.
- Interest Rate wont much impact on loan_amnt , funded_amnt , funded_amnt_inv , installment.
- loan_amnt , funded_amnt , funded_amnt_inv , installment is dependent on Annual Income.

ANALYSIS



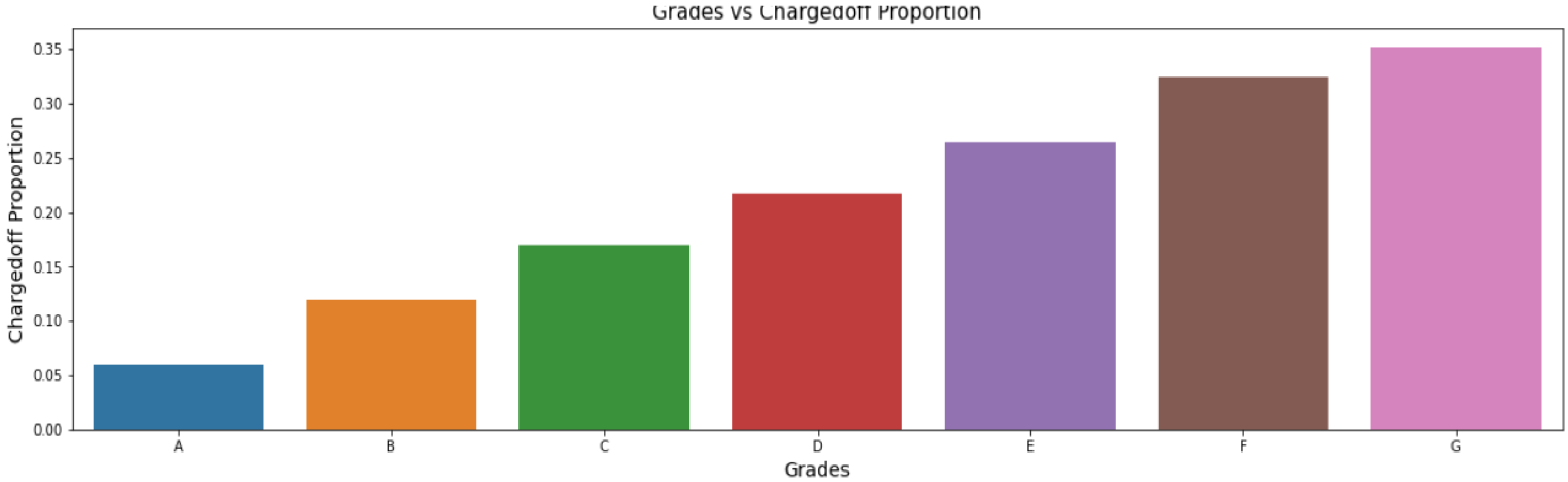
- Annual income is increasing charged off proportion is decreasing.
- So highest charged off proportion are in the range between 0 to 20k annual income.

ANALYSIS



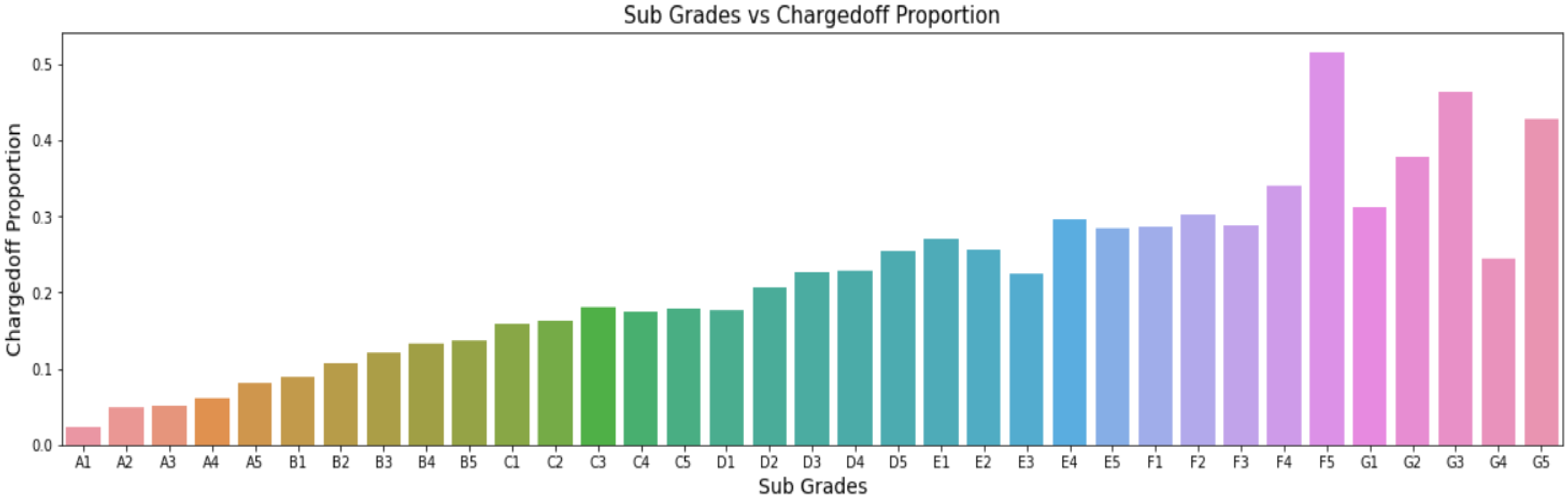
The borrower who take loan for the purpose of small-business has the maximum charged off proportion.

ANALYSIS



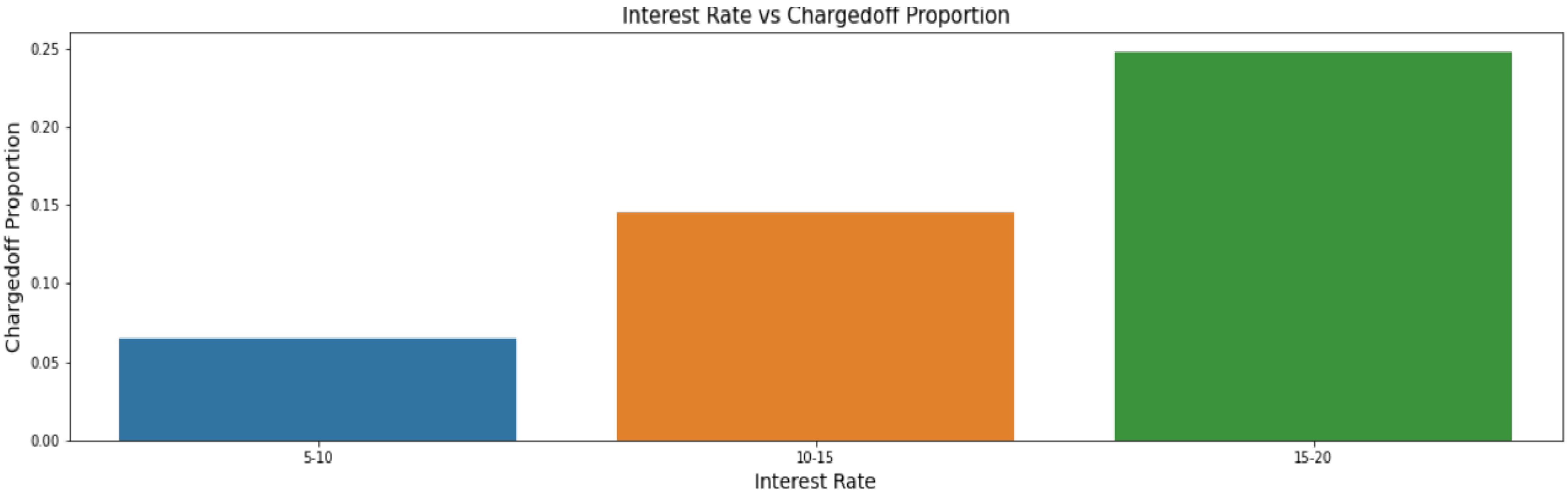
Grades are decreasing charged off proportion is increasing.

ANALYSIS



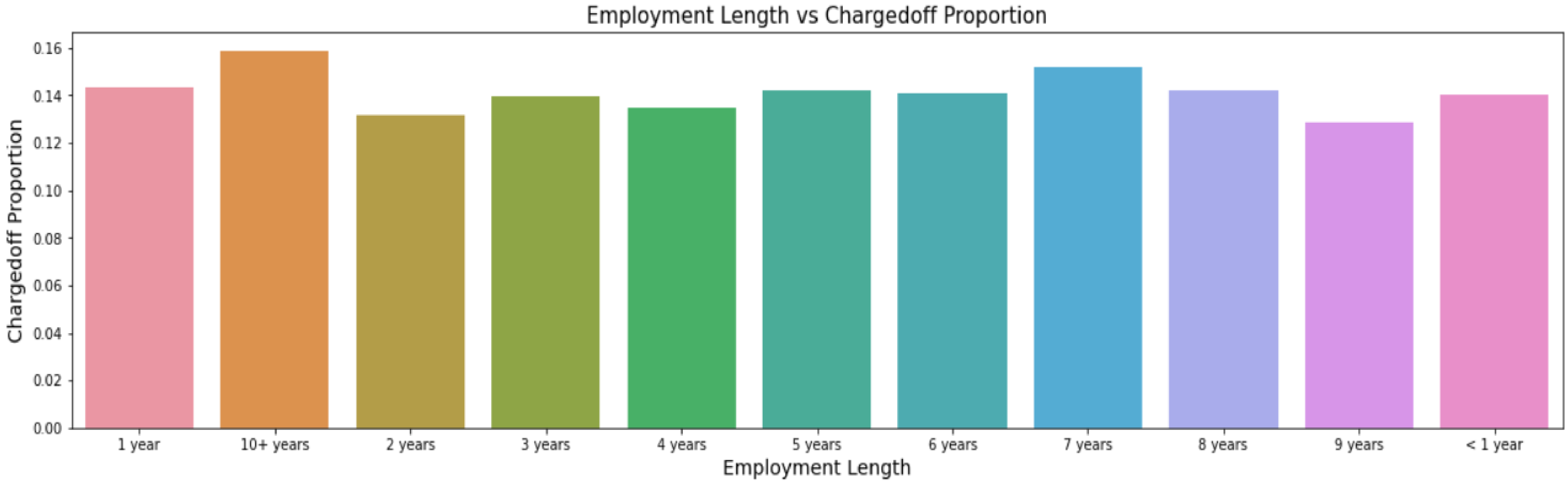
Subgrade F5, G3 and G5 are having maximum charged off proportion.

ANALYSIS



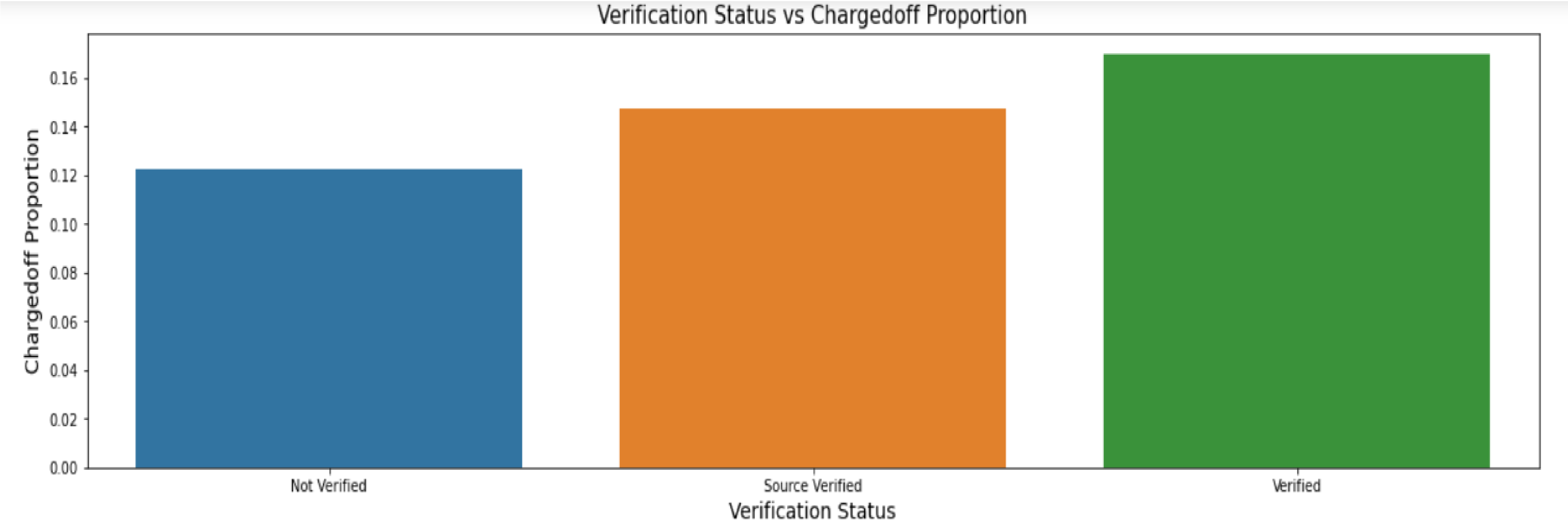
As interest rate are increasing, charged off proportion is also increasing. The borrower who takes loan at the interest rate of 15 to 20 are getting mostly charged off.

ANALYSIS



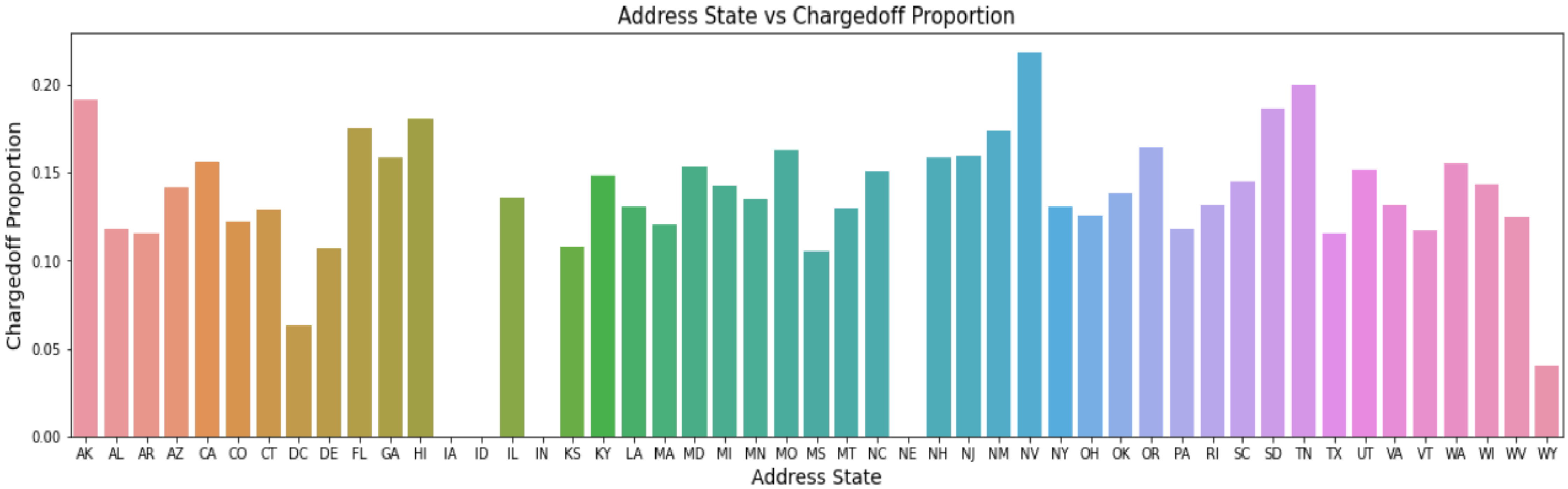
The borrowers whose employee length is less than 1 year, 1 year and 10+ year are mostly getting charged off.

ANALYSIS



- Most of the verified borrowers are getting charged off then others.

ANALYSIS



The borrowers who are from NV, AK, TN, SD state are mostly getting charged off.

RECOMMENDATIONS

- Lending club should reduce the high interest loans for 60 months tenure, they are prone to loan default.
- Lending club shouldn't give loan to those borrowers whose loan status is 'Verified' as they taken high amount of loan with 60 months tenure.
- Borrower's will be defaulted when they are having home ownership as 'Rent' and they take loan for the purpose of debt consolidation for Credit card payments.
- Borrower's whose annual income is low i.e. between 20k are more defaulted.
- Lending club shouldn't give loans to those borrowers, who takes loan amount in the range 0 to 14000.
- Borrower's who receive interest at the rate of 15-20%, will be defaulted more.
- Borrower who takes loan for the purpose of small business, Debt consolidation and credit card payments are more defaults.
- Grades are good metric for detecting defaulters. Lending club should examine more information from borrowers before issuing loans to Low grade (G to A).
- Lending Club shouldn't provide loans to these states i.e. NV, AK, TN, SD, as most of the people are defaulted from these places only.
- Those borrowers whom employment length is less than and equals to 1 are more prone to defaulter, Lending club should aware of these while giving loans.