Lending Club case study

Group Members
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Problem statement

- There is a consumer finance company which specializes in lending various types of loans to urban customers.

- The analysis should be done to minimize the revenue loss to the company. The revenue loss might happen due to the borrowers are going to be defaulters.

- Based on the data provided about the borrowers, The aim is to identify patterns which indicate if a person is likely to default.

- The concepts of exploratory data analysis should be used for coming up with variables deciding the loan defaulters

Problem solving approach

Data Clean up

- The data clean up should be done on below aspects
  - Correcting column headers such as removing spaces in it
  - Correcting rows such as removal of spaces etc.
  - Remove unnecessary columns data
  - Remove the missing data
- Addition of few derived columns especially on dates and other summary metrics.
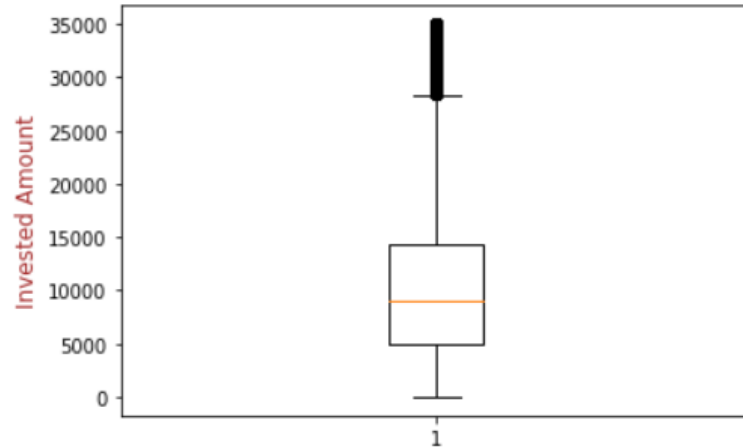
Analysis

- The analysis constitutes majorly two parts
- Univariate analysis, we derive the frequency distributions about some loan and borrower variables
- Bivariate analysis, we try to see the impact of one variable on another ones.
- Especially in the bivariate analysis we try to see how the loan status (Fully paid or changed off) is being impacted with other variables.
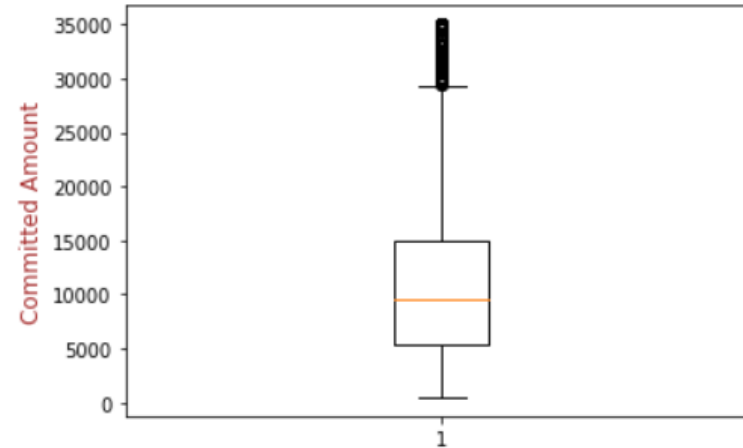
Recommendations

- The recommendations needs to provided so that the lending company does not end up in revenue losses.
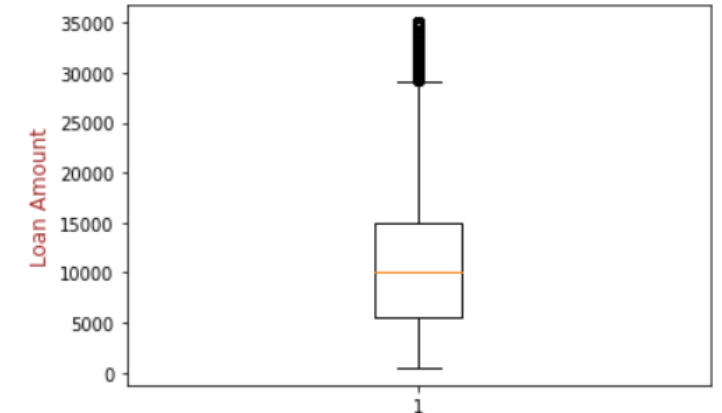
Analysis - Univariate

Distribution of invested amount

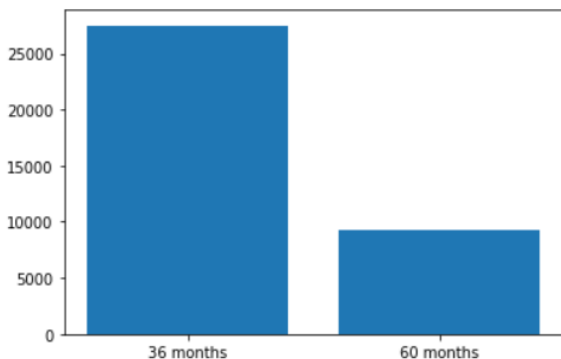Distribution of committed amount
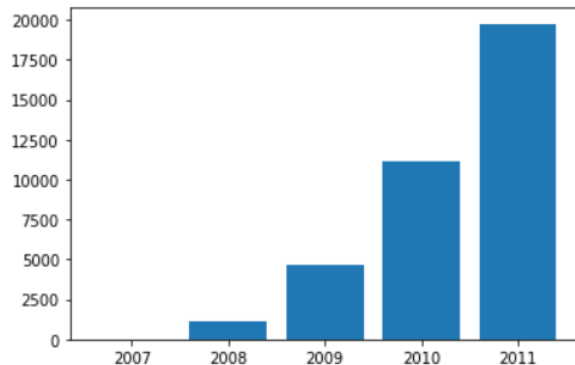
Distribution of loan amount

As per the above analysis the distribution of Loan applied amount, approved and invested by investors are almost same
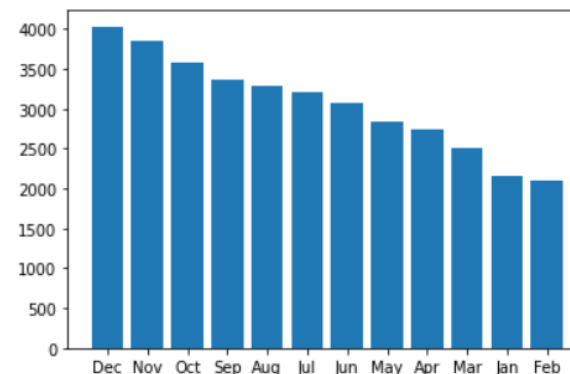
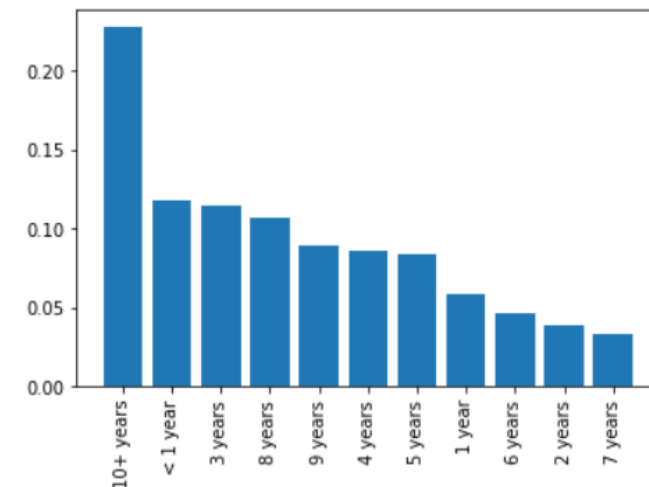# Analysis - Univariate

Term analysis

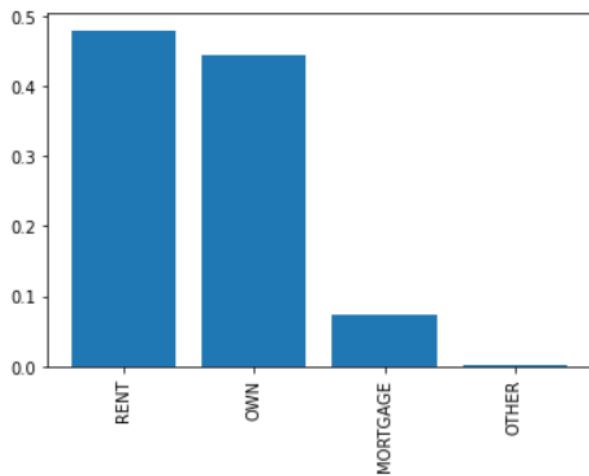Issued year analysis

Monthwise loans
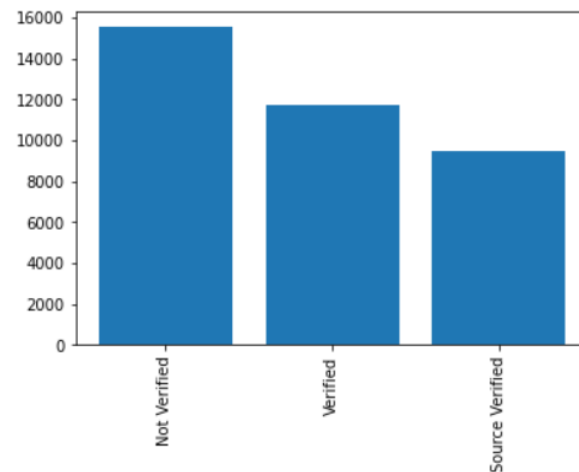

Employment period analysis

- Most of the borrowers are opting for 36 months
- From 2007 to 2011 lending company is doubling the loans issued
- Especially in December, November and October, loans are given more
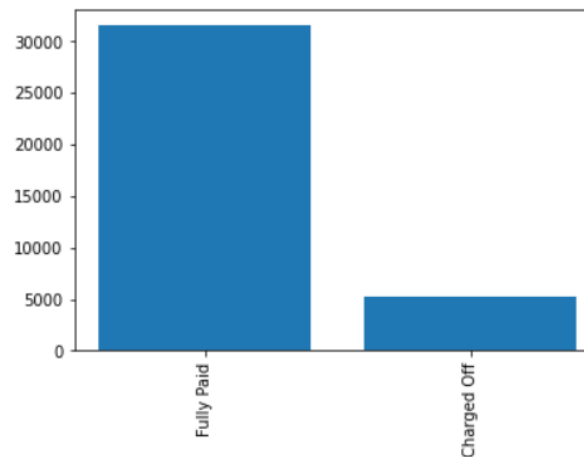- More loans are offered to employed more than 10 years
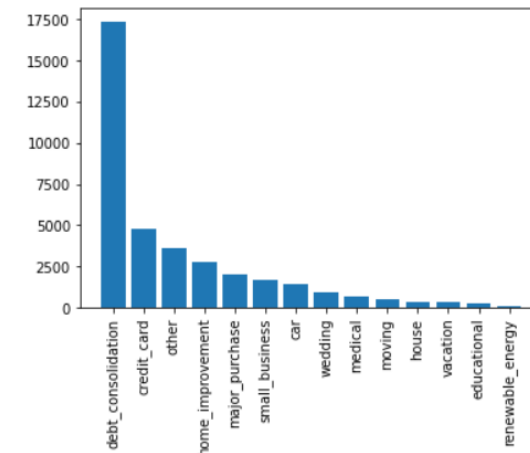
Analysis - Univariate
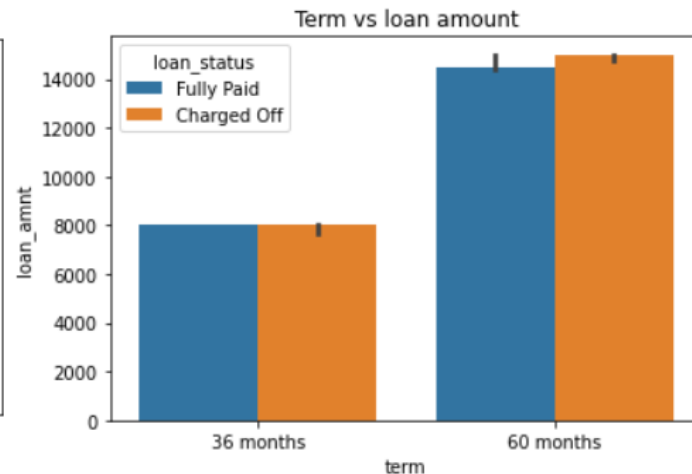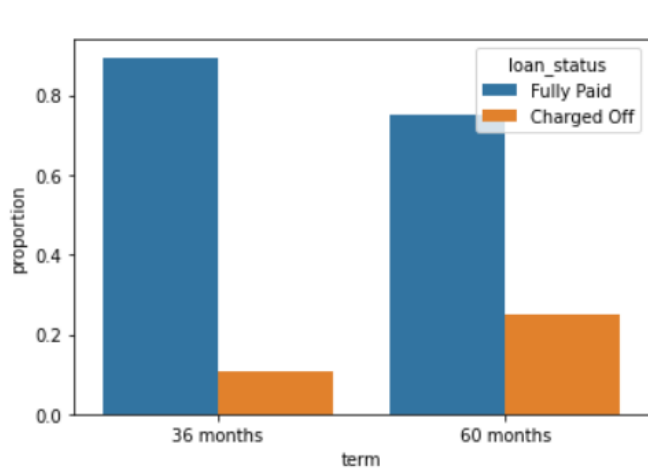

- Most of the borrower's on Rented property
- Most of the borrower's loan application status is not verified
- Most of the borrowers fully paid the loan
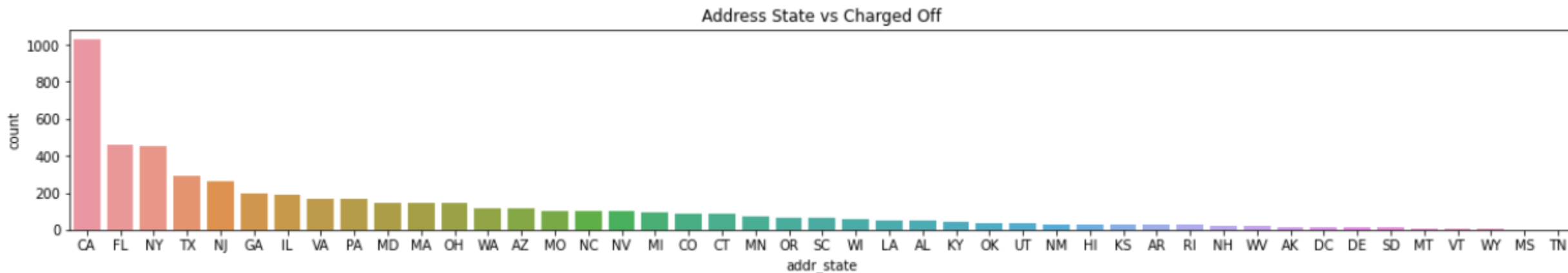- Majority percent of purpose is debt consolidation

Analysis – Bivariate - 1
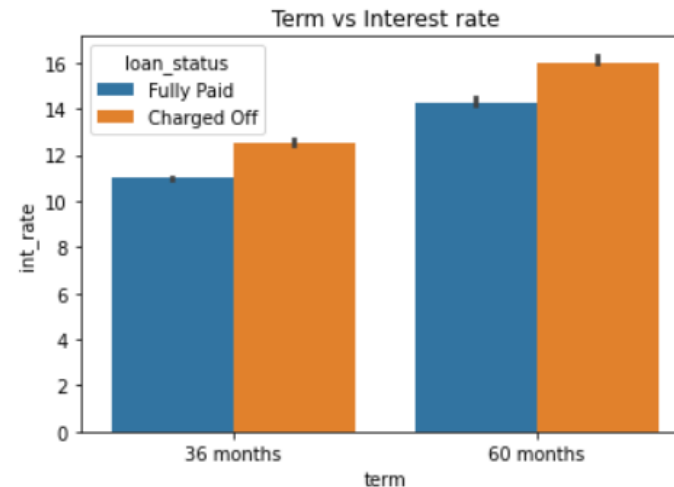
- Proportionally the 60-month tenured loans have more defaulters
- Loan amount does not have any impact
- The defaulters are at more interest rate
- Loan status verification does not impact

Analysis – Bivariate - 2

Address State vs Charged Off

Impact of purpose on loan status
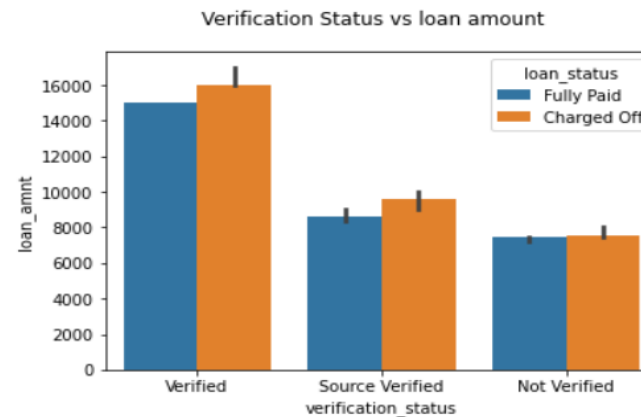
- When the loan is taken for the purpose of small business there are lot of chances of being default
- The state of the borrower is CA, FL and NY there are high chances of being default.
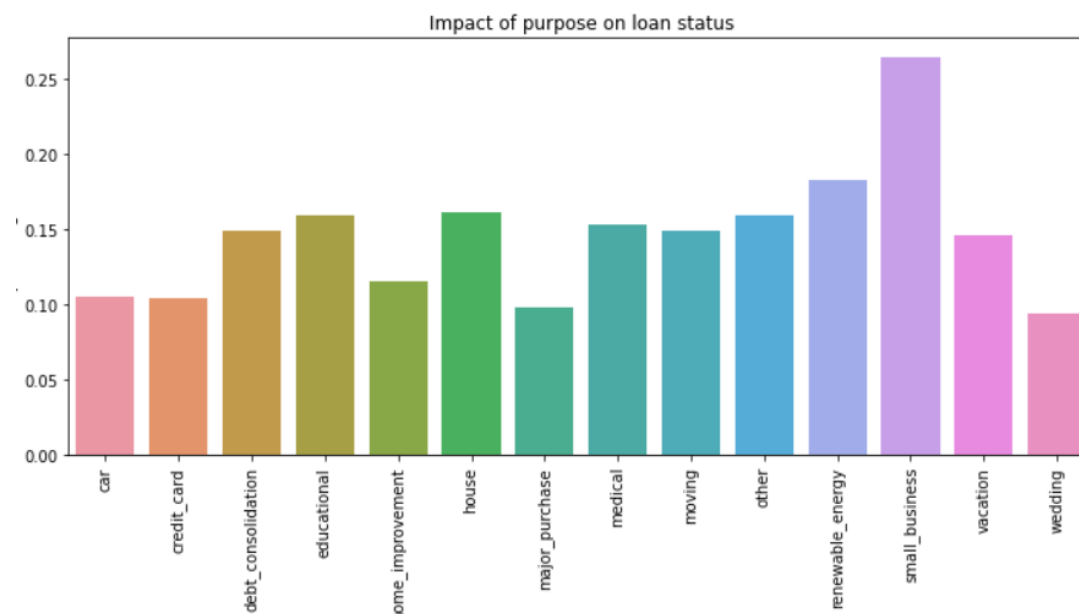
Recommendations

- Interest rate should be reduced a bit for 60-month term loans
- Lenders should control the loans given to CA, NY and FL state borrowers
- Reduce the loans given to small business loans