

Lending Club Case Study

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Abstract

- Lending club is a online platform, facilitating loans such as medical, buying house , business and other financing needs.
- Customers can access loan quickly with help of online platform at low interest rate.
- The purpose of this presentation to showcase which kind of customers are defaulting loans and who are paying loans in time with the help of information about past loan applicants.

Methodology followed



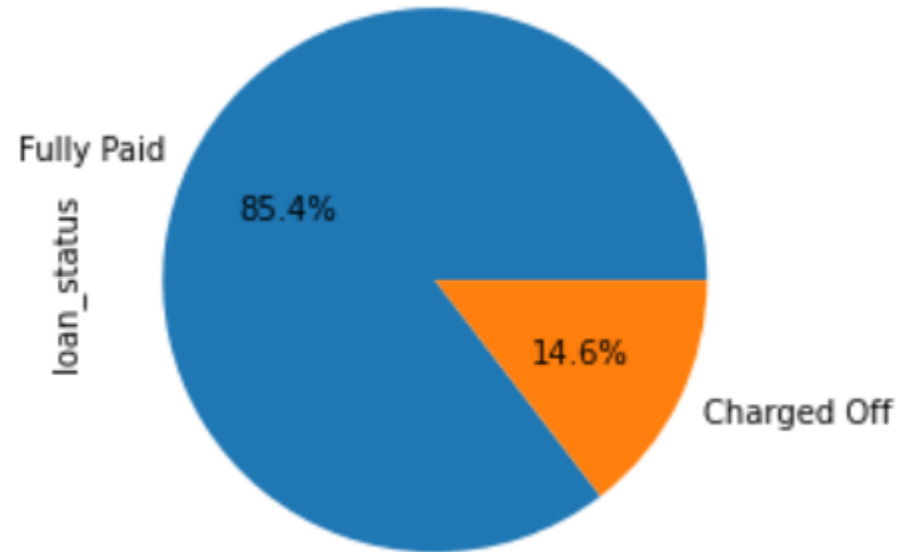
Data Exploration

1. Importing necessary modules
2. Loading data set files to data frame.
3. Finding out the shape of data frame
4. Understanding the Data set and Data type of variables
5. Understanding the data dictionary

Data Cleaning and Feature Selection

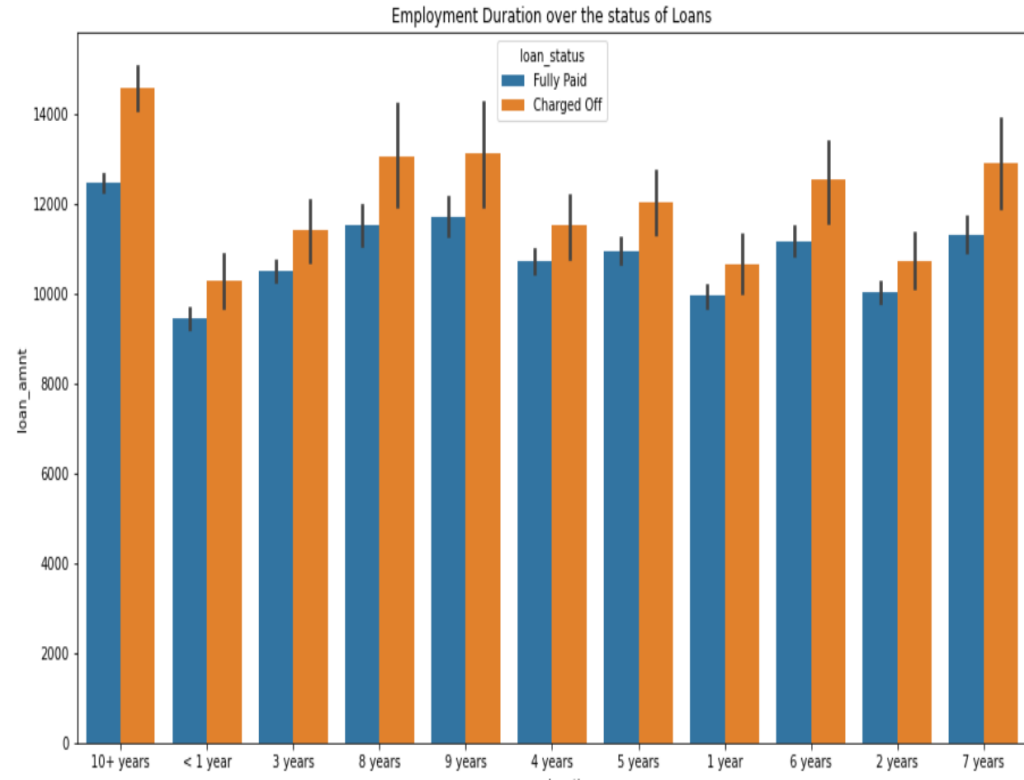
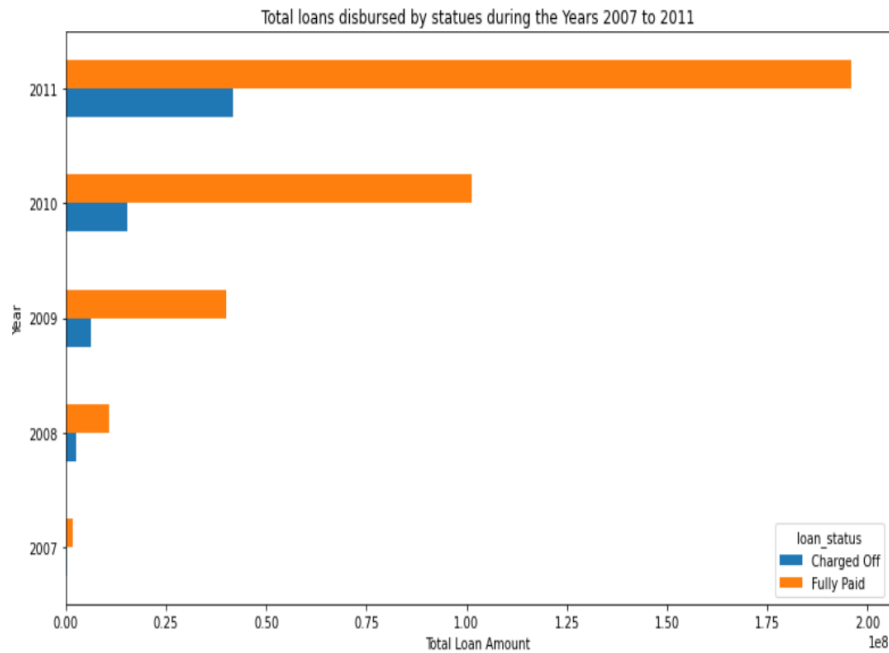
- Checking and dropping columns where missing value is more than 50%
- Checking columns with one unique values
- Checking and changing the data type where needed.
- Filtering and removing columns with single unique value

Data Analysis



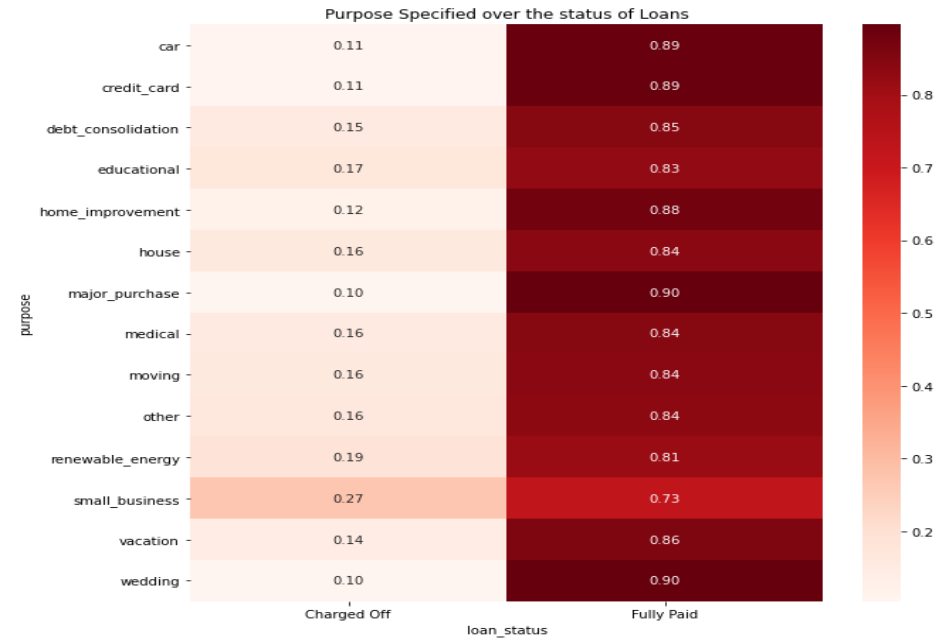
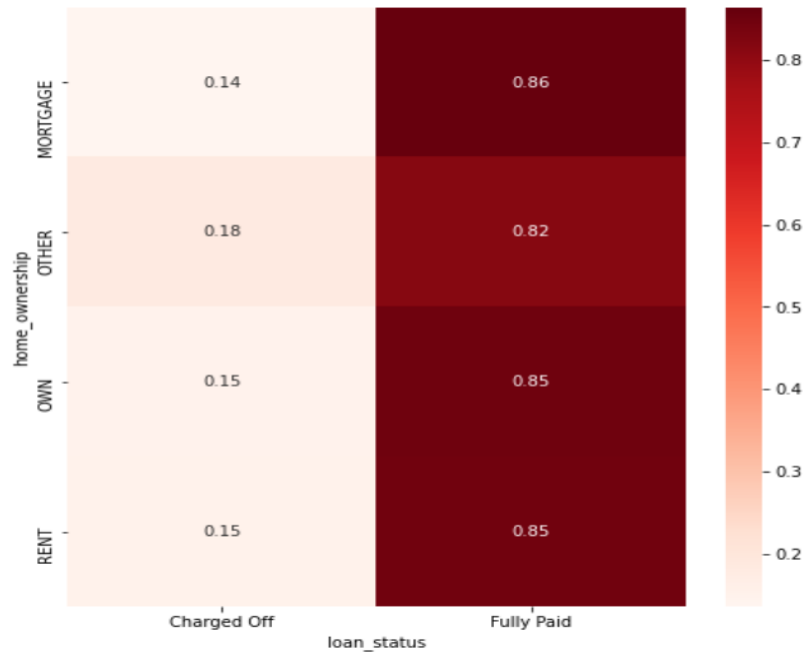
Majority of customers had paid loan only 1/7 of total EDA customers are defaulters.

Data Analysis



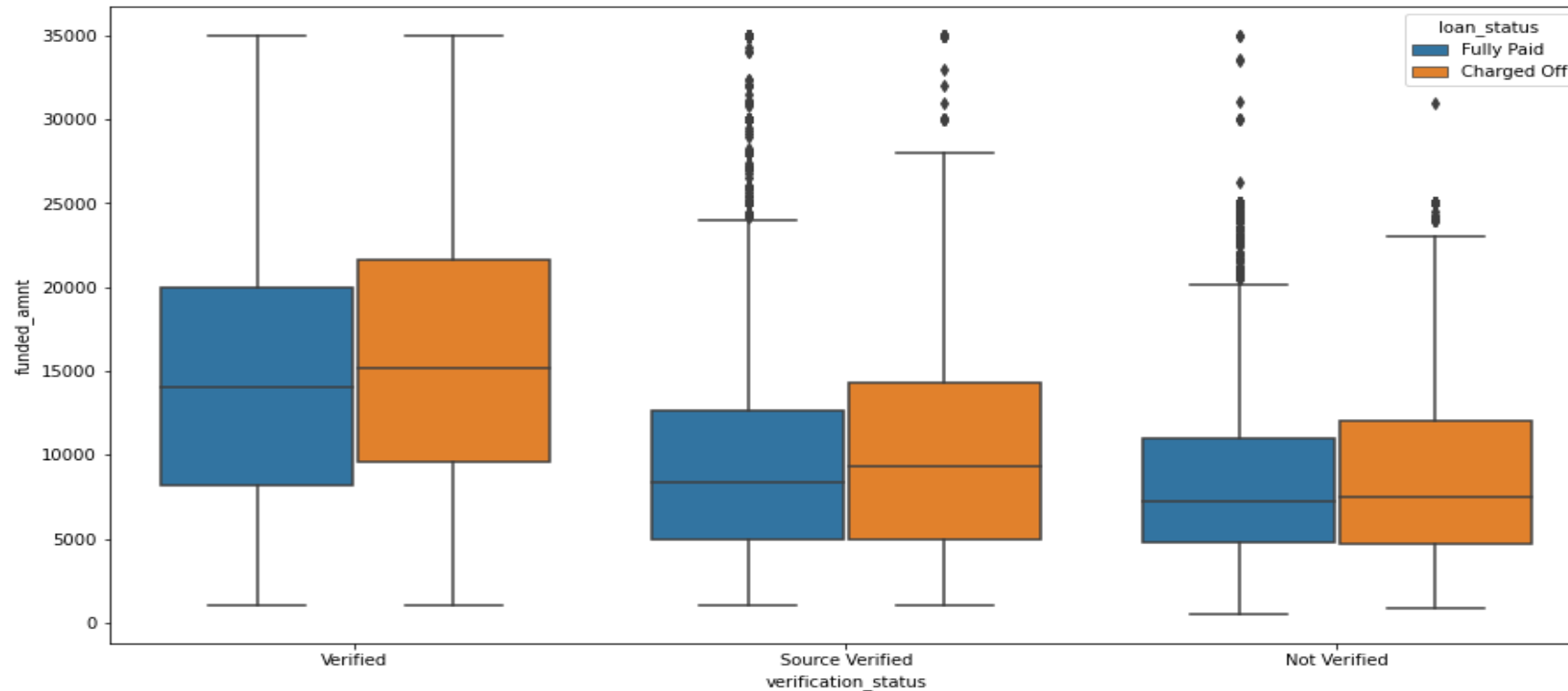
- Lending club has really expanded year by year, the number of loan issued are doubled every year, and so is the rate of defaulters.
- EDA customers with more than 10 years of experience has more number of loan application.

Data Analysis



- Customers who does not filled the exact status of home ownership like 'other' option are more likely to charge-off. .
- Customers whose purpose of seeking loan is small business are more likely charged off, Customers whose purpose of seeking loan is weeding, credit card, or other major purposes apart from small business are able to repay the loan in time

Data Analysis



Customers who are verified and loan amount provided in more than the “not verified” customers are more likely to be charged off.

Conclusions

- Encourage Short Term Loans.
- Applicants with 'Others' as their home ownership are more risky, as they have bad payment records.
- Almost all experience levels curb the same full payment likelihood.
- Loans assigned for the purpose of Small Business bring are to be avoided as much as possible, rather approve prompt on Major Purchases, Wedding, Car, Credit Card, etc.
- Lending to a 'non-verified' applicant can be encouraged, based on its high frequency and low charge-off ratio.
- Lastly, it is recommended to levy an optimal interest rate of around 12.5%. Higher interest increases the probability of defaulting, & lower rates reduce the risk, but also profitability is affected.