

LENDING CLUB CASE STUDY

SUBMISSION

Name:

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Abstract

Objective:

To determine the top predictors which have major influence on the tendency to default and also to provide recommendation points to investors to reduce the default rate.

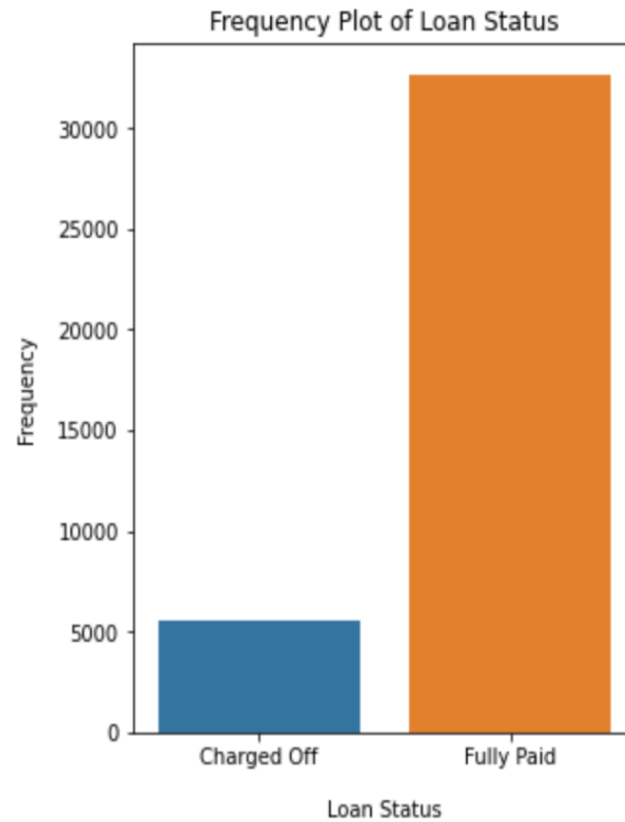
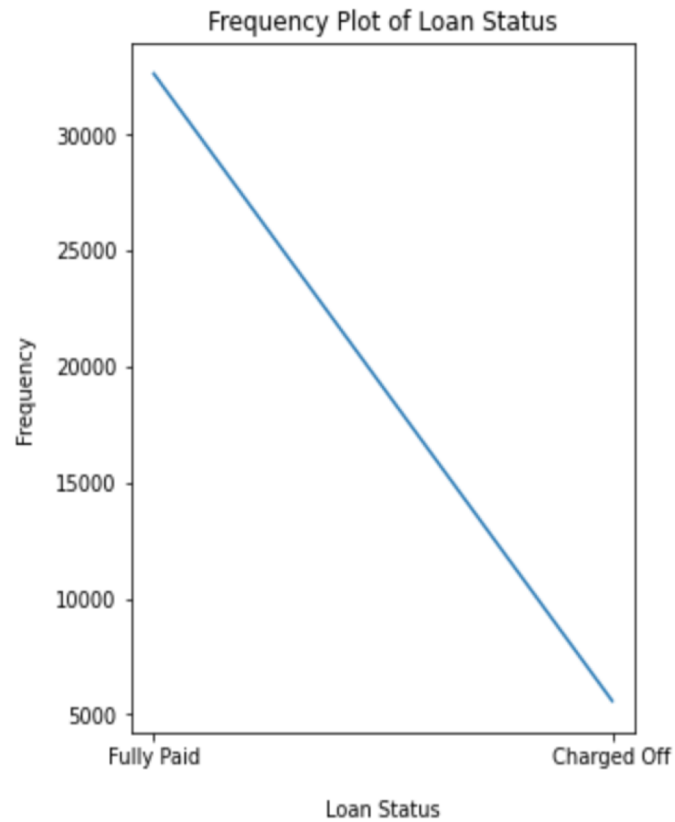
Problem Statement:

Whenever the consumer finance company receives a loan application, the company has to make a decision for loan approval based on the applicant's profile. As employees of the company to analyse the dataset using EDA and to identify patterns which indicate if a person is likely to default, which may be used for taking actions such as denying the loan, reducing the amount of loan, lending (to risky applicants) at a higher interest rate, etc.

Problem solving methodology



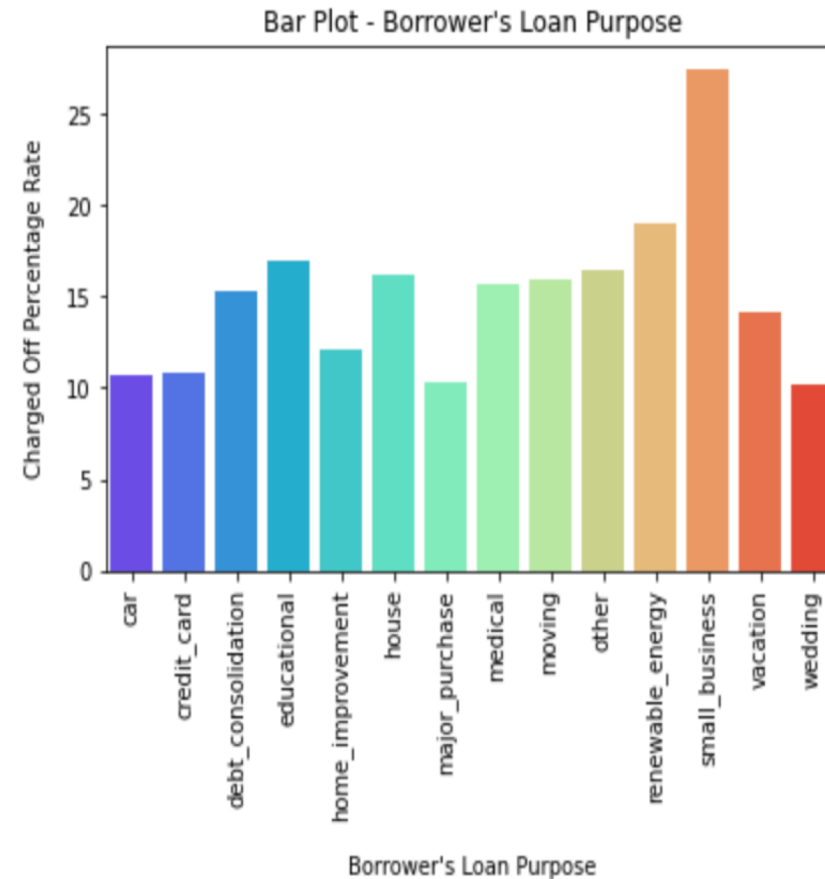
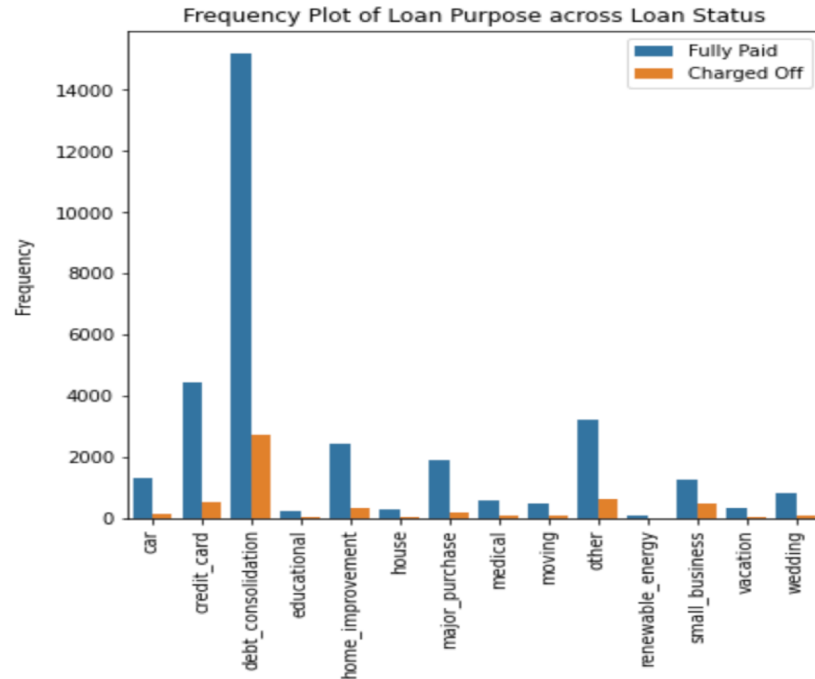
Analysis – Loan Status



On average 14% of loans are defaulted.

Charged off loans: 5584
Fully paid loans: 32606

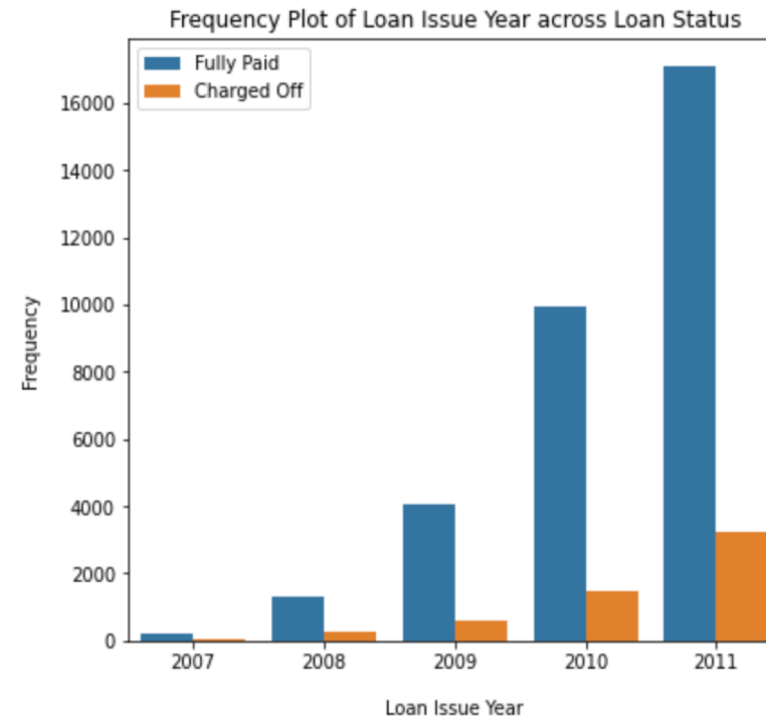
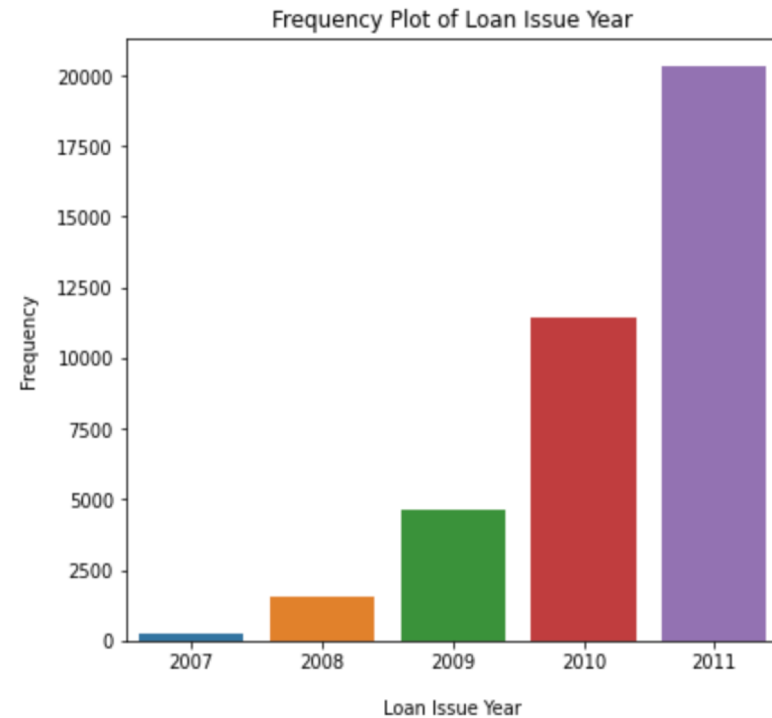
Analysis-Purpose



Top 4 types of loan granted: debt_consolidation, other, credit_card, home_improvement.

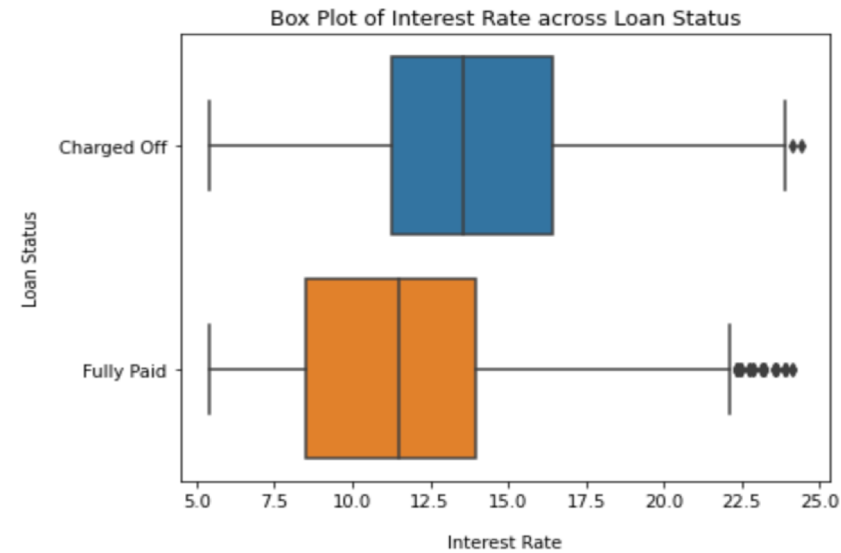
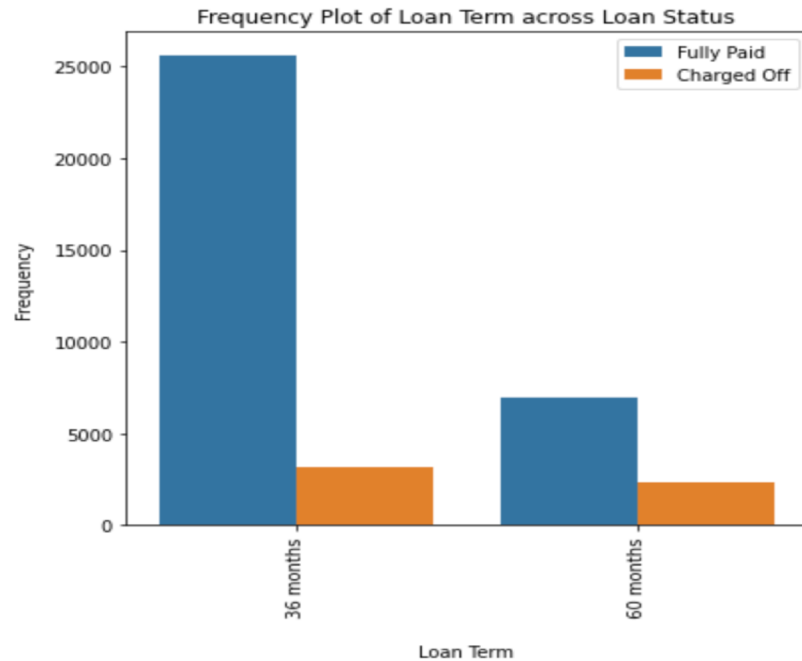
Top 4 types of loan likely to default: small_business, renewable_energy, debt_consolidation, education loan

Analysis – Issue Year



The most number of loans was sanctioned in 2011.

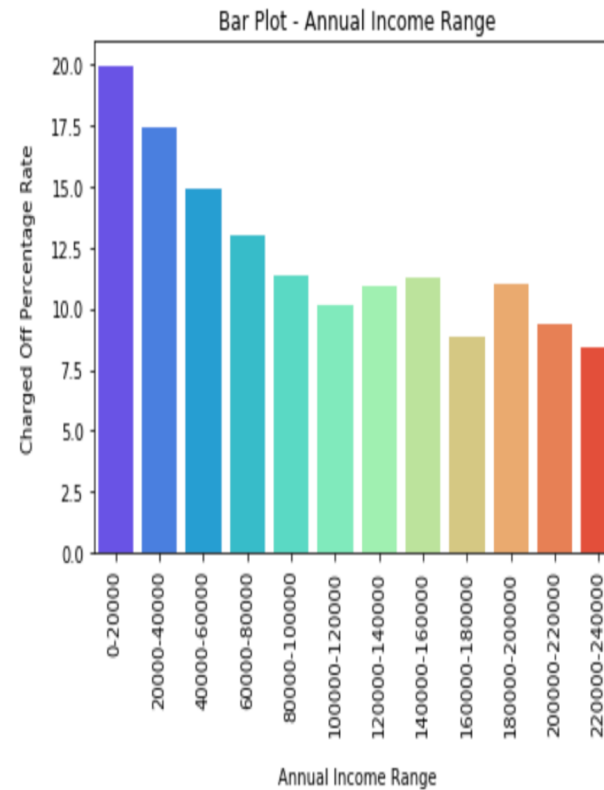
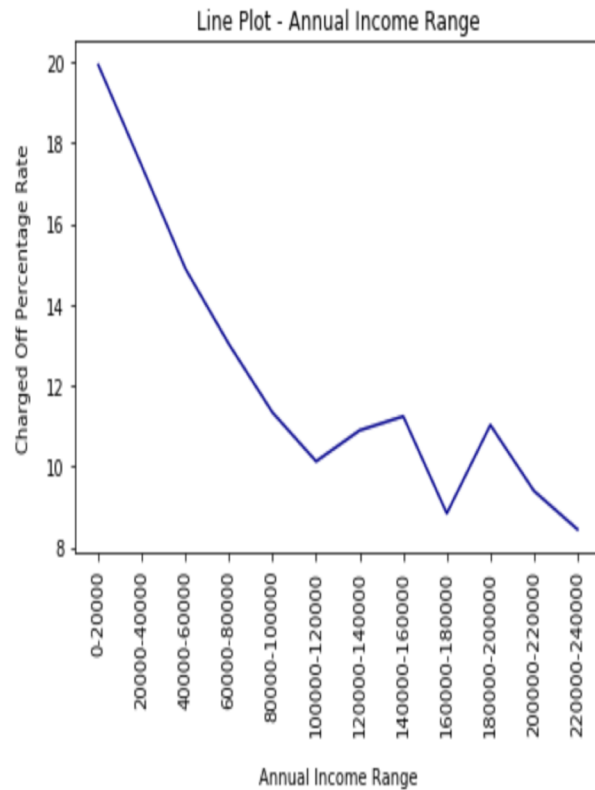
Analysis – Issue Year



Charged Off Applicants has a central tendency of Interest Rate as 13.57% with minimum 25th percentile of value 11.28% and maximum 75th percentile of value 16.40%.

After 13.75% and plus interest rate has more have higher risk of defaulting.

Analysis – Annual Income



Charged Off Rate - Top 3
Annual Income Range: 0-20000 = 19.93%, 20000-40000 = 17.42%, 40000-60000 = 14.89% As the Annual Income decreases, Charge Off Rate Increases

Results-Top Analysis

- The default rate is 14%
- The most number of loans was sanctioned in 2011
- Top 4 types of loan granted: debt_consolidation, other, credit_card, home_improvement.
- Top 4 types of loan likely to default: small_business, renewable_energy, debt_consolidation, education loan
- Applicants who do not own their house are more likely to default.
- After 13.75% and plus interest rate has more have higher risk of defaulting.
- Applicants with income less than 20k are more likely to default
- Higher the dti higher the percentage of defaulting
- Emp_length, number of loan instalments has not much impact on default rate.
- Top important predictors are grade , interest_rate, term, loan_amount and annual income

Recommendations

- Avoid small_purpose loans or reduce the number
- Avoid giving large value loans for higher dti level
- The default loans has interest rate in range 11-16 and full paid falls under 8 - 13. There is not much difference, there need to be better risk analysis