LENDING CLUB CASE STUDY SUB

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MLAI C5 , BATCH ID 3074,

Lending Club Case

Background:

Lending Club is the largest online loan mark
loans, business loans and financing of medic
of credit loss is lending loans to ‘risky’ appli

Problem Statement:

Lending Club wants to identify the risky loan
can be reduced thereby cutting down the amo

Our aim is to find the driving factors behind

Problem Solving Methodology

Data Understanding:

1. Loan Data Set contains the complete loan data for all loans issued throug

2. Data Dictionary describes the meaning of each variable used in Loan Da

1. We dropped the columns having more than 60% missing values, where nu not influencing our target variable i.e **loan status**.
2. We are assuming here that the columns representing customer behaviour (relevant w.r.t our analysis.

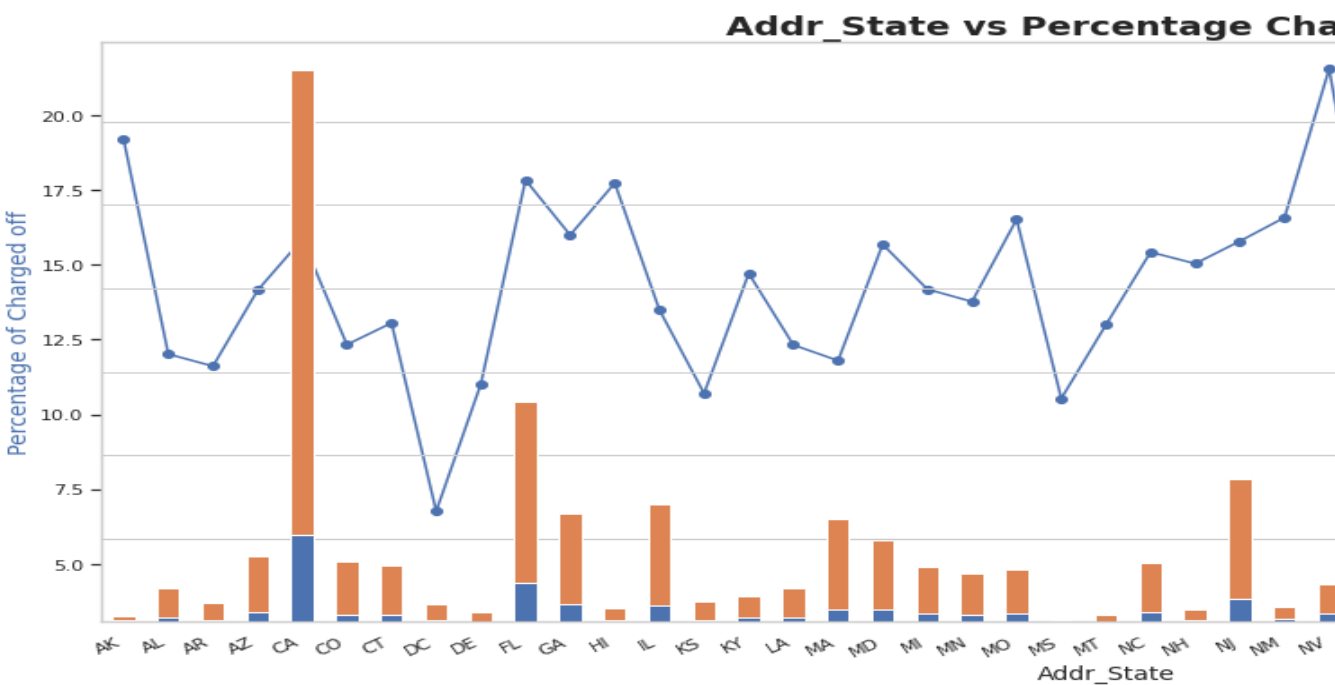
3. We have removed all data where loan status is "Current" as this is not rele

Percentage of Charged Off:

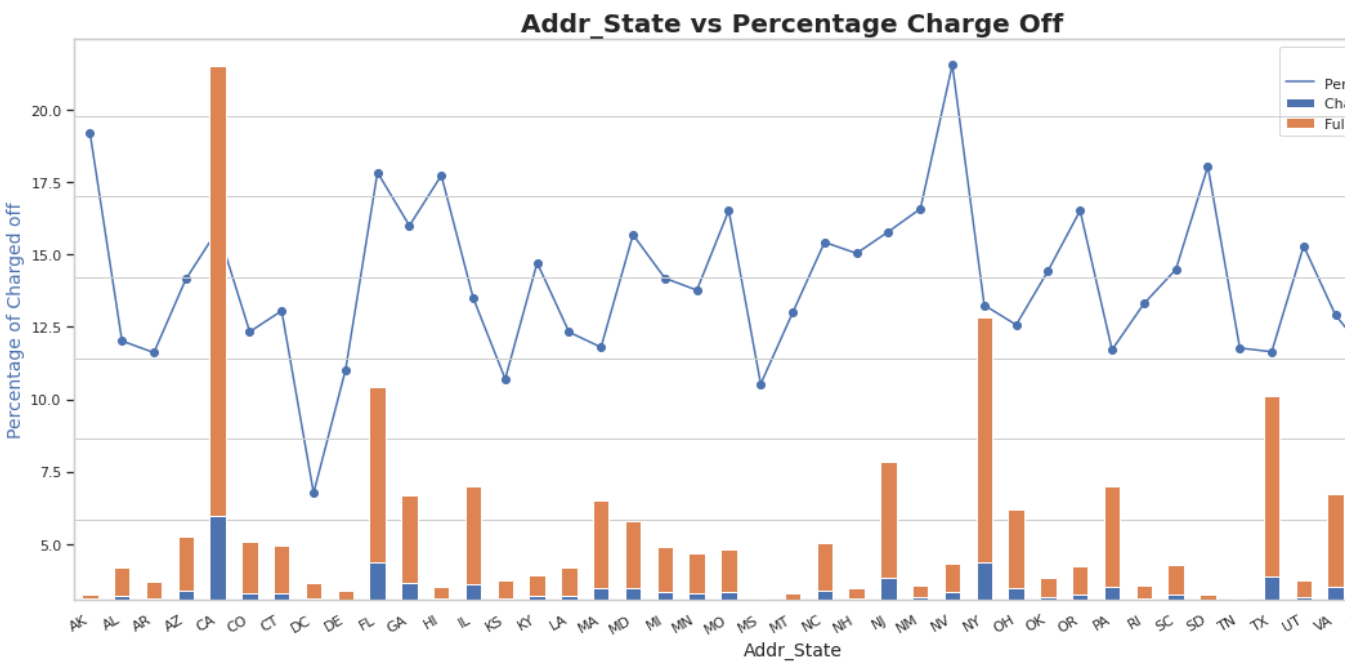
The main motive of this use case is to find what parameters are impacting Loa
complete the loan term or default. So, we will be using a new term **Percentag**

Percentage of Charged Off = (Number of Applicants Char

We will calculate this percentage w.r.t each column in bivariate analysis & wil
these columns.



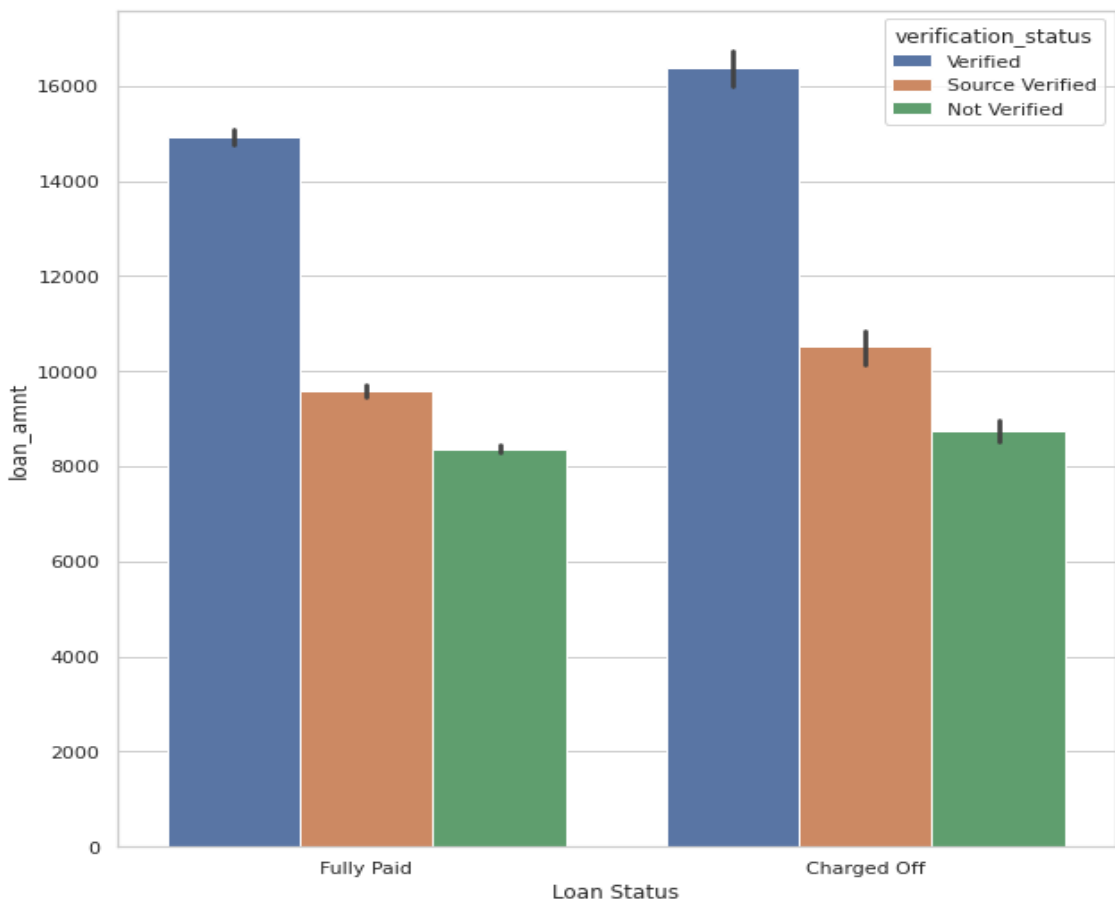
1.Maximum no. of loans are applied by people from CA.
2.Maximum no. of loans are charged off for people of NV.



Loan Analysis

Verification Status & Home Owners

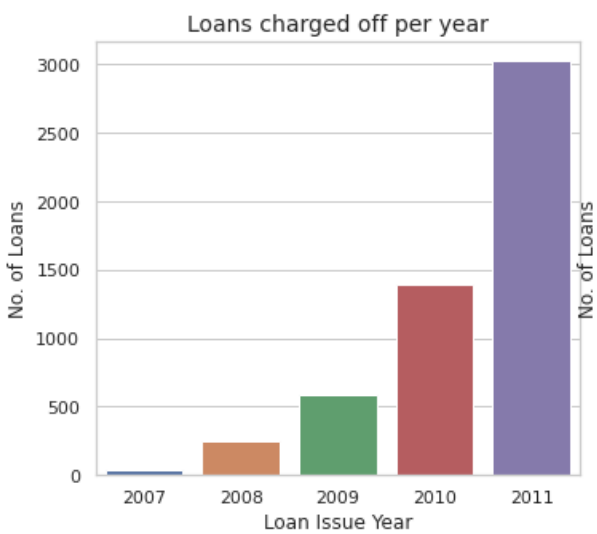
1. Max no. of loans are charged off where verification status is
2. Max no. of loans are charged off for people who are living or

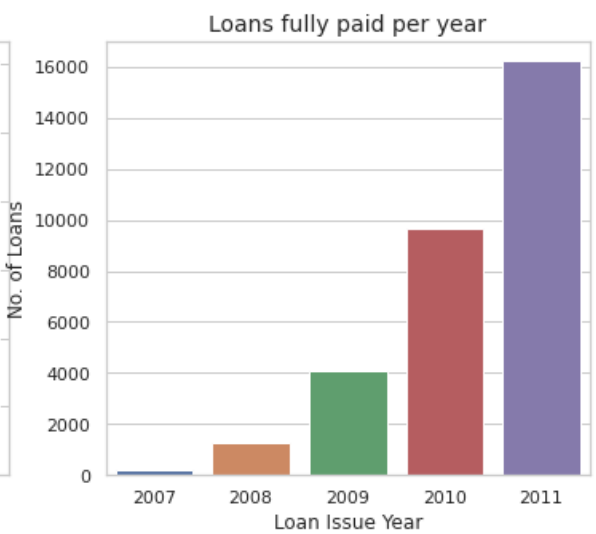

verification_status
Verified
Source Verified
Not Verified
16000
14000
12000
10000
8000
6000
4000
2000
0
loan_amnt
Fully Paid
Charged Off
Loan Status

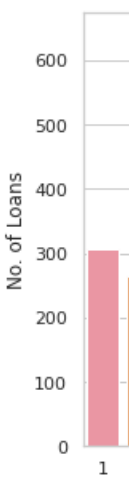
Year & Month Wise tren

1. No. of loans, fully paid and charged off are increasing year-
is a very positive trend for Lending Club as the requirement of lo

2. The month-wise trend shows that most of the loans are ful
end, applicants apply more loans towards the end of year.

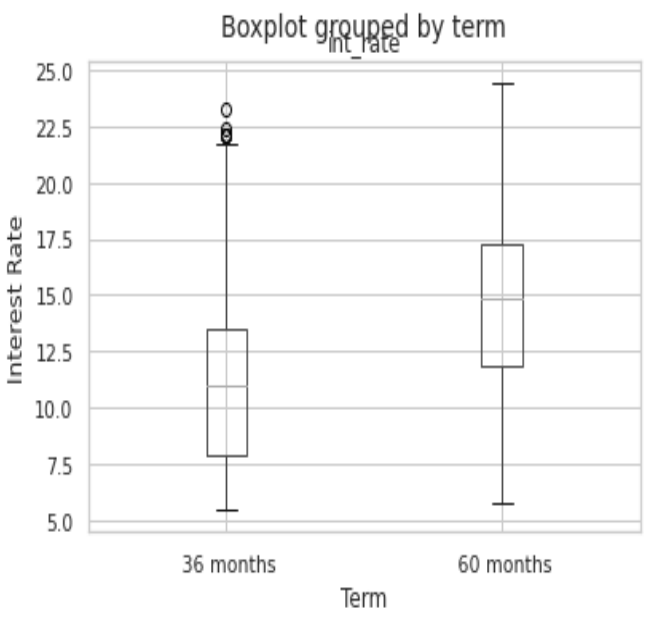


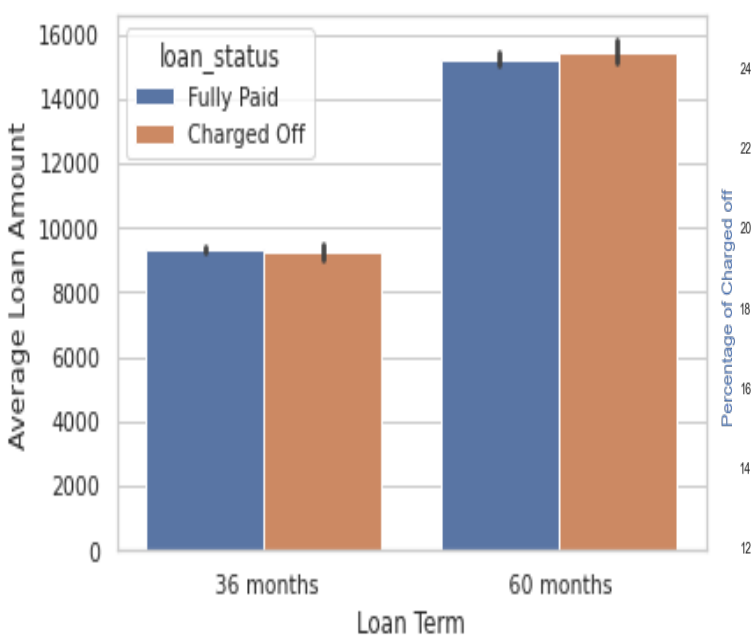




Loan Term Analy

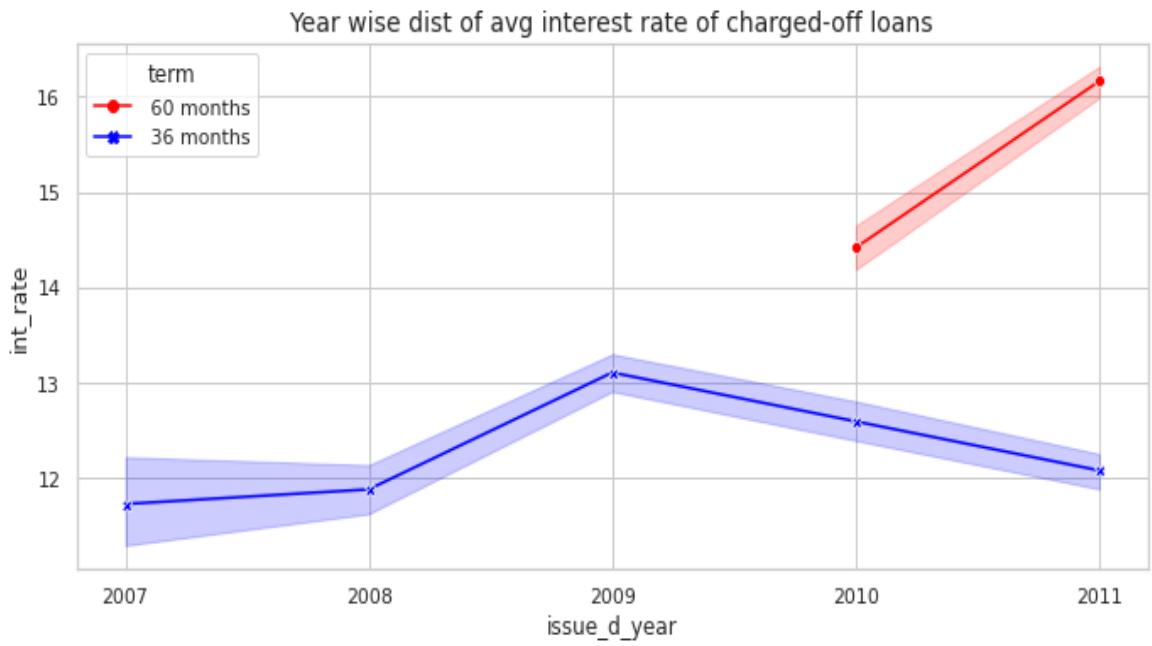
1. The interest rates are higher for 60 month term.
2. The average loan amount is similar for both the terms for both
3. The average loan amount is higher for the 60 month term.



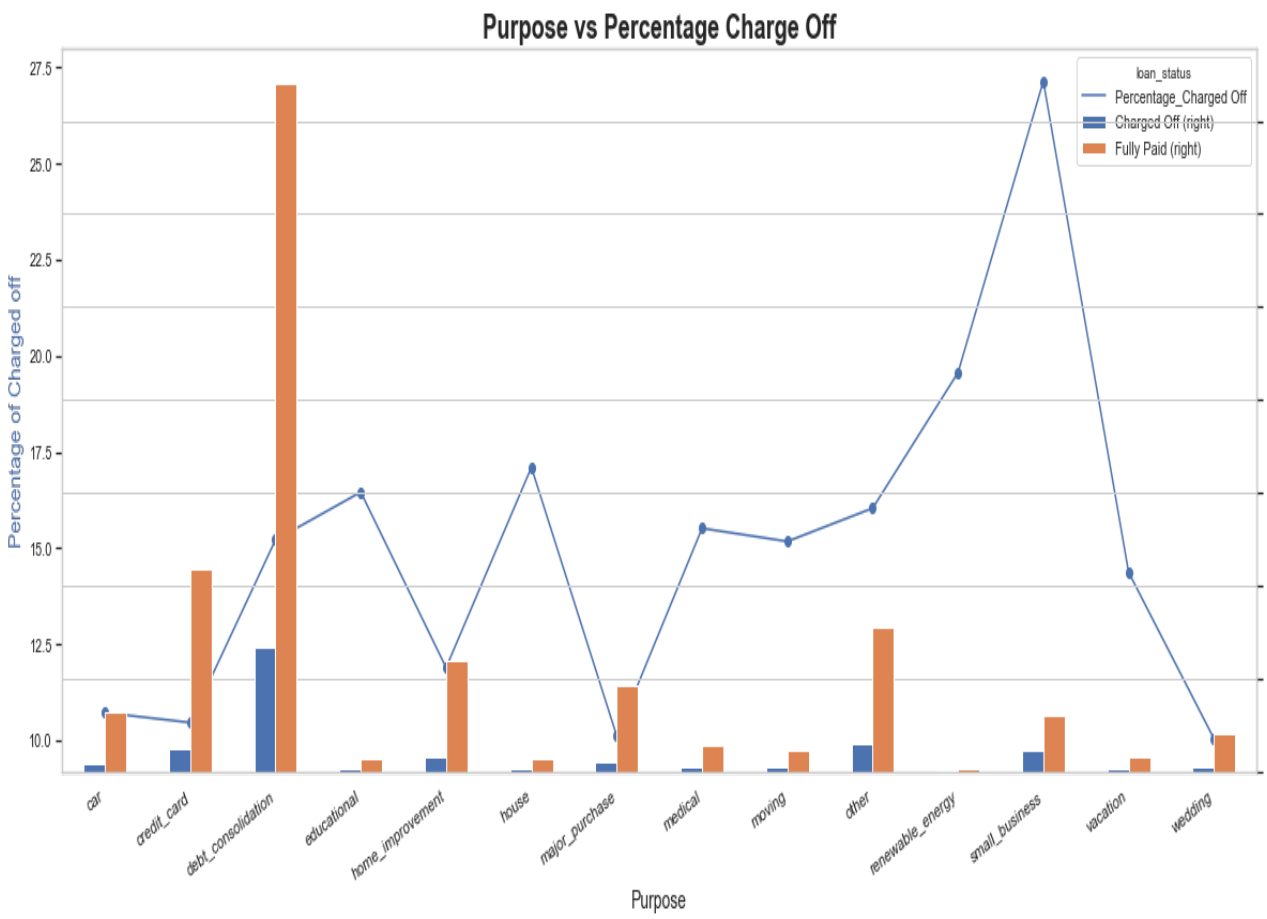


Loan Term Analysis

1. Average Interest Rate is increasing for charged off and fully paid l
   of 60 months term in 2010, Average Interest Rate decreased sign
2. 60 month term was introduced in 2010.
3. Average interest rate is higher for 60 month term.



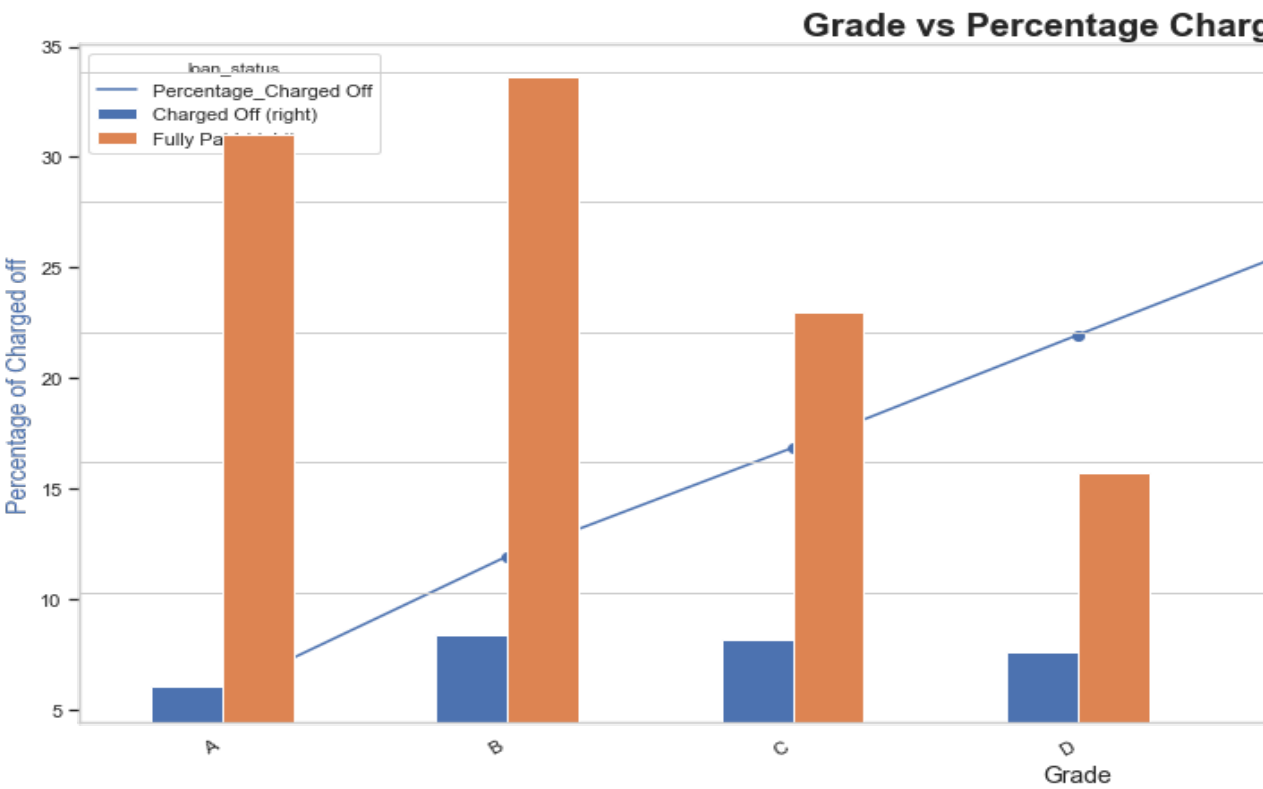
Charged off Percentage as per



Interest Rate is higher for charged off loans across all purposes.

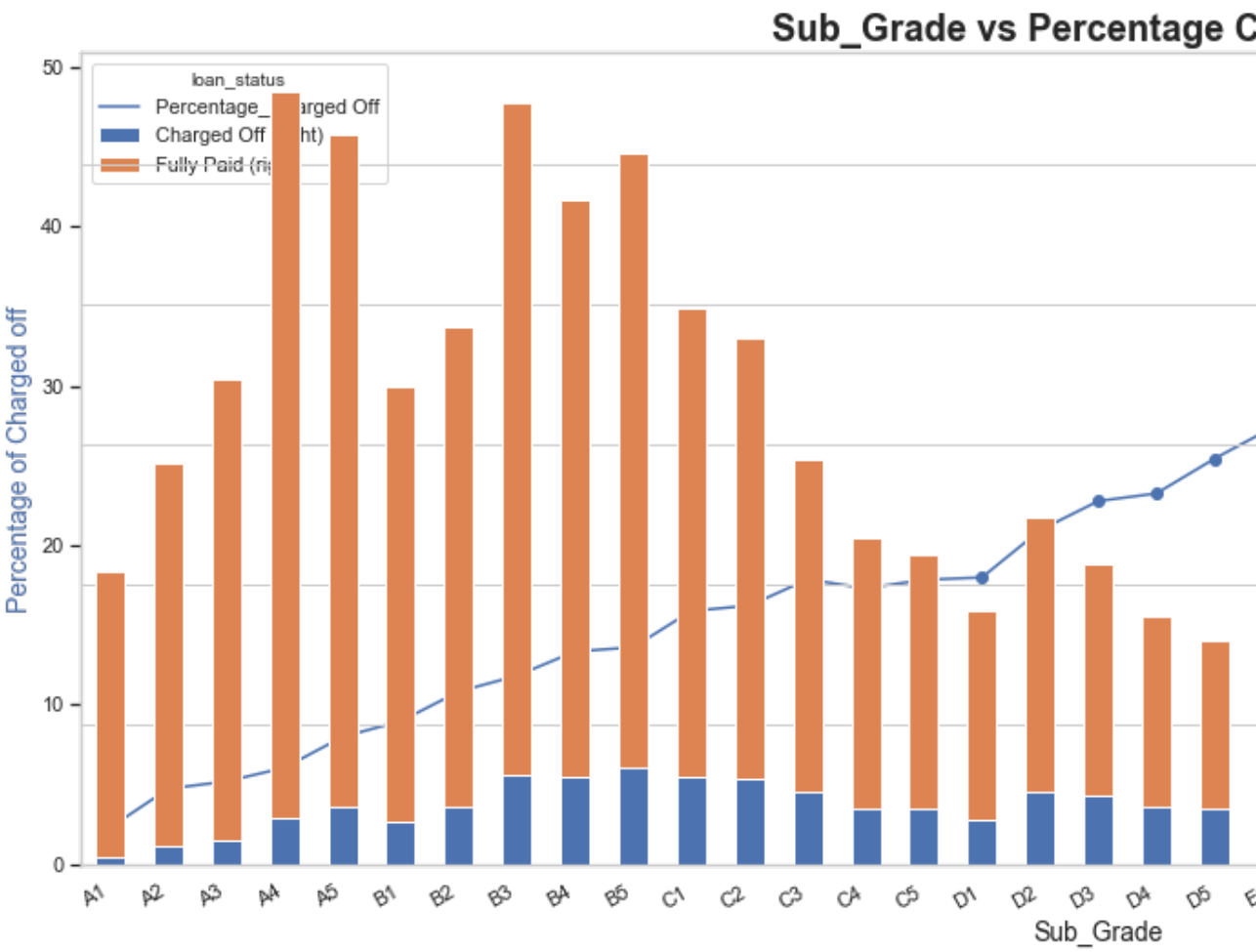
Charged off Percentage as

1.Grade **A and B** loans are **safe**. Within these the sub-grad
loan applicants.



2.Grade **E, F, G** loans are less safe as compared to others.

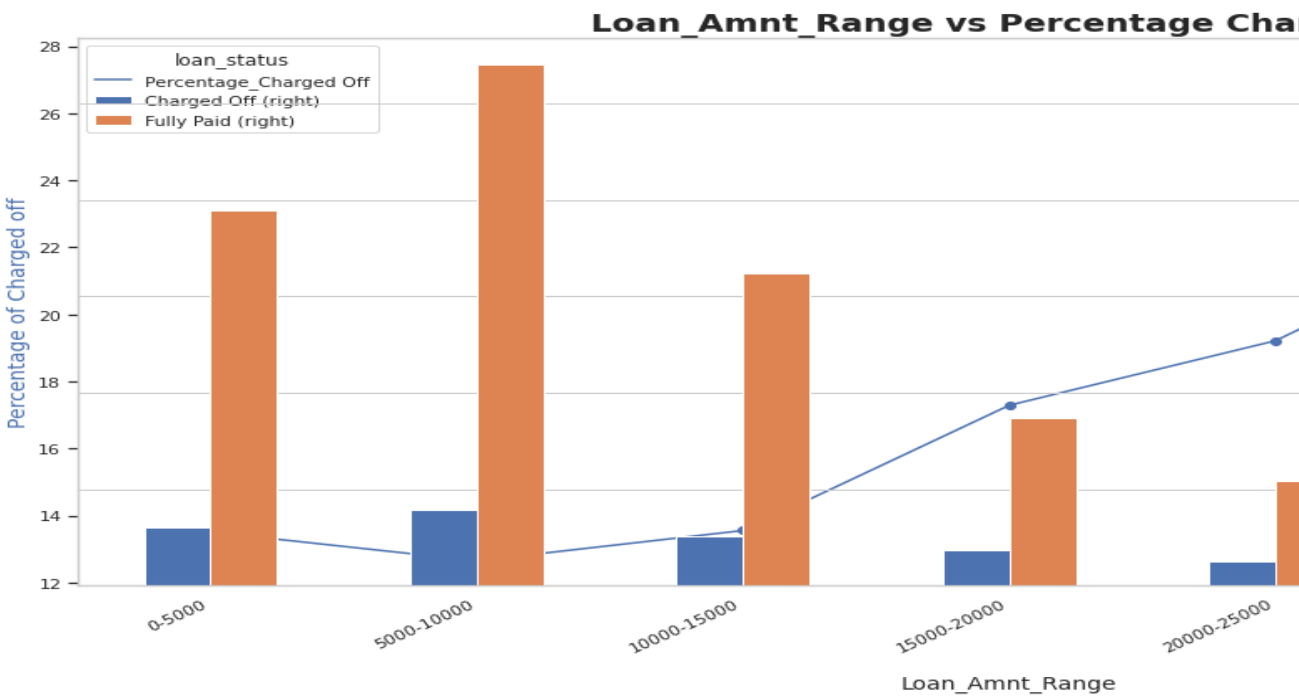
Charged off Percentage as p



Charged off Percentage as per

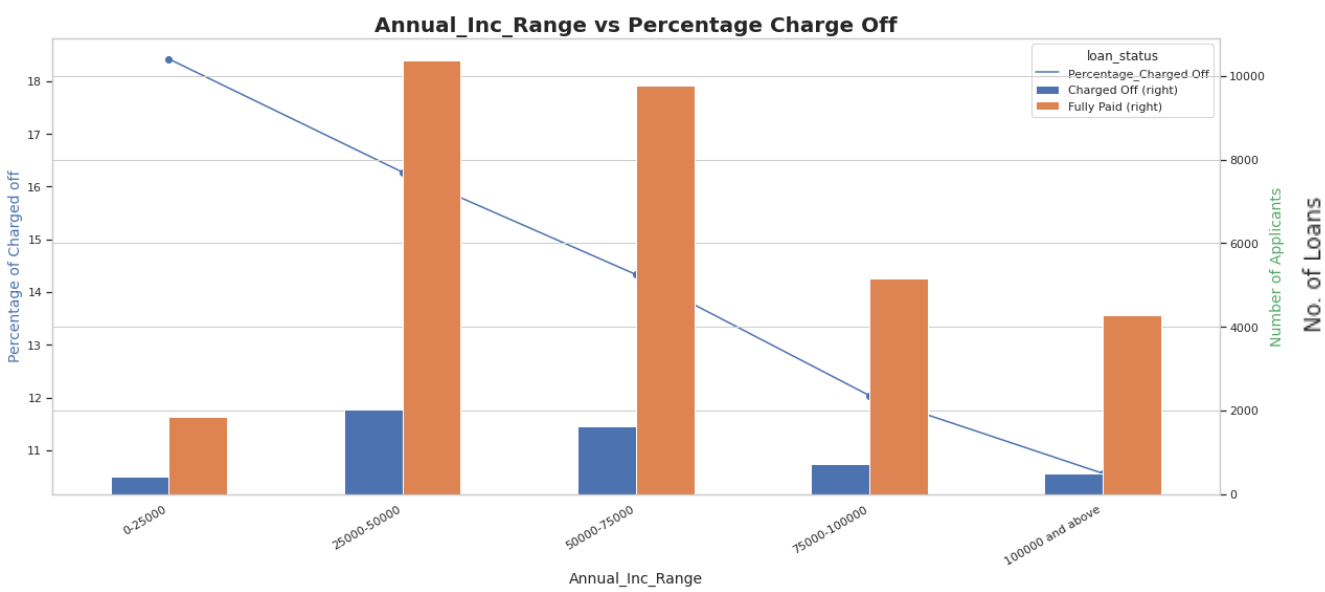
As the **loan amount** increases, The probability of loan being charg
amount of **30,000+**

The maximum no. of loans, **12410** are applied where the **loan amo**



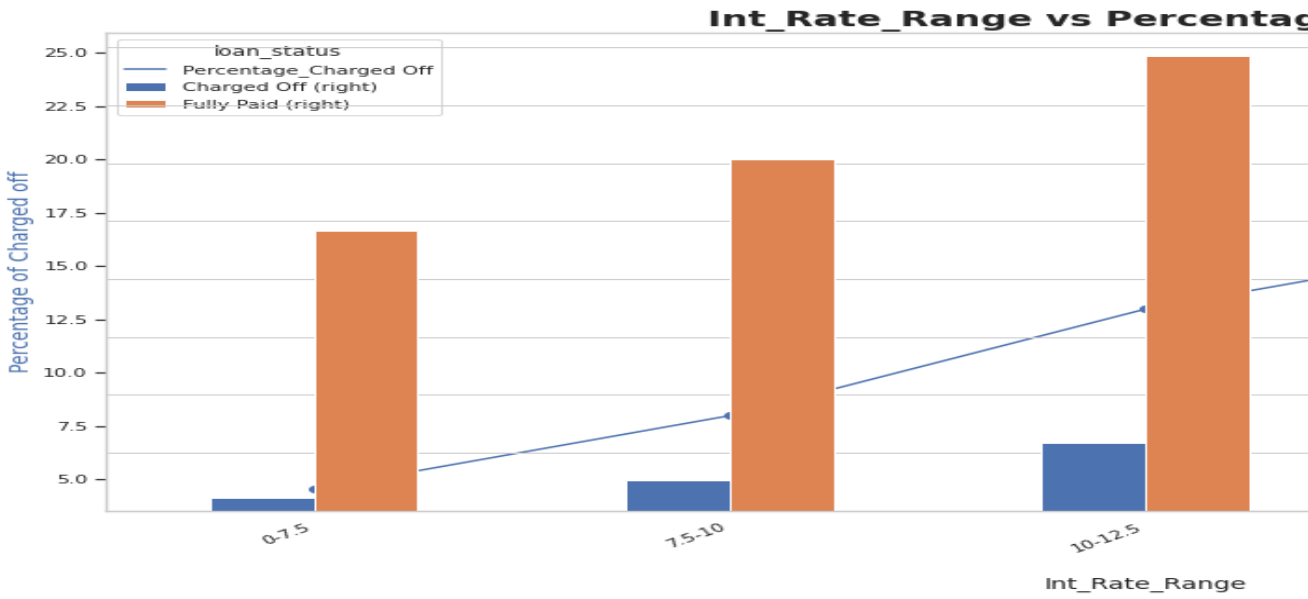
Charged off Percentage as per An

1.As the Annual Income is increasing, The % of loan getting ch
income more than 100000 and maximum where annual incom
2.Maximum loans are applied by applicants whose annual inco
3.Max no. of loans are charged off for people having 10+ years



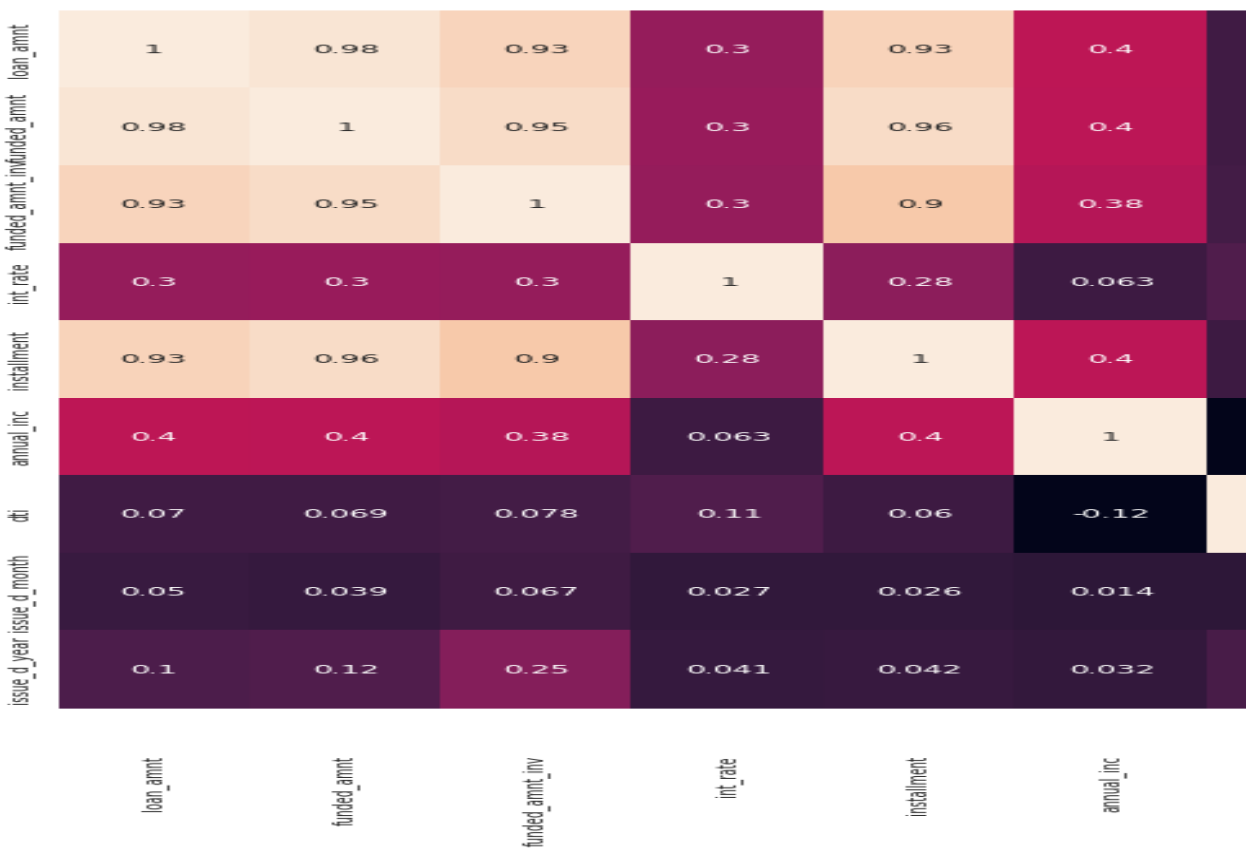
Charged off Percentage as per L

1.As the Interest Rate is increasing, The % of loan gettir
for interest rate below 7.5.
2.Maximum loans are applied by applicants where the ir



Correlation Heat-M

1. Loan Amount, Funded Amount, Funded Amount invested a
2. Annual Income is negatively correlated with DTI.



Recommendations to Le

Loan Acceptance

1. For Weddings, Major Purchases, Car and Credit Card purposes.
2. Loan amount ranging between 5,000 USD and 10,000 USD.
3. Annual Income of applicants more than 1,00,000 USD.
4. Calculated interest rate for loan less than 7.5%.
5. Grade A & B.
6. Loan applicant is owning a house.
7. Loans for 36 months term.

1.
2.
3.
than
4.
5.
6.
7.