Lending Club Case Study Analysis

1. KRISHNA CHITRAK

2. ANURADHA VIJAYAKUMAR

Problem Statement

▶ 	Need to analyse the Lending club data which has the information of loan status for the year 2007 to 2011.

▶ 	Need to analyse the data and find insight that which types of borrowers use to pay full

▶ loan and which type of borrowers are charged off.

▶ 	This will help the company to grow the business by approving loan to eligible

▶ borrowers and rejecting those who can't pay(charged off)
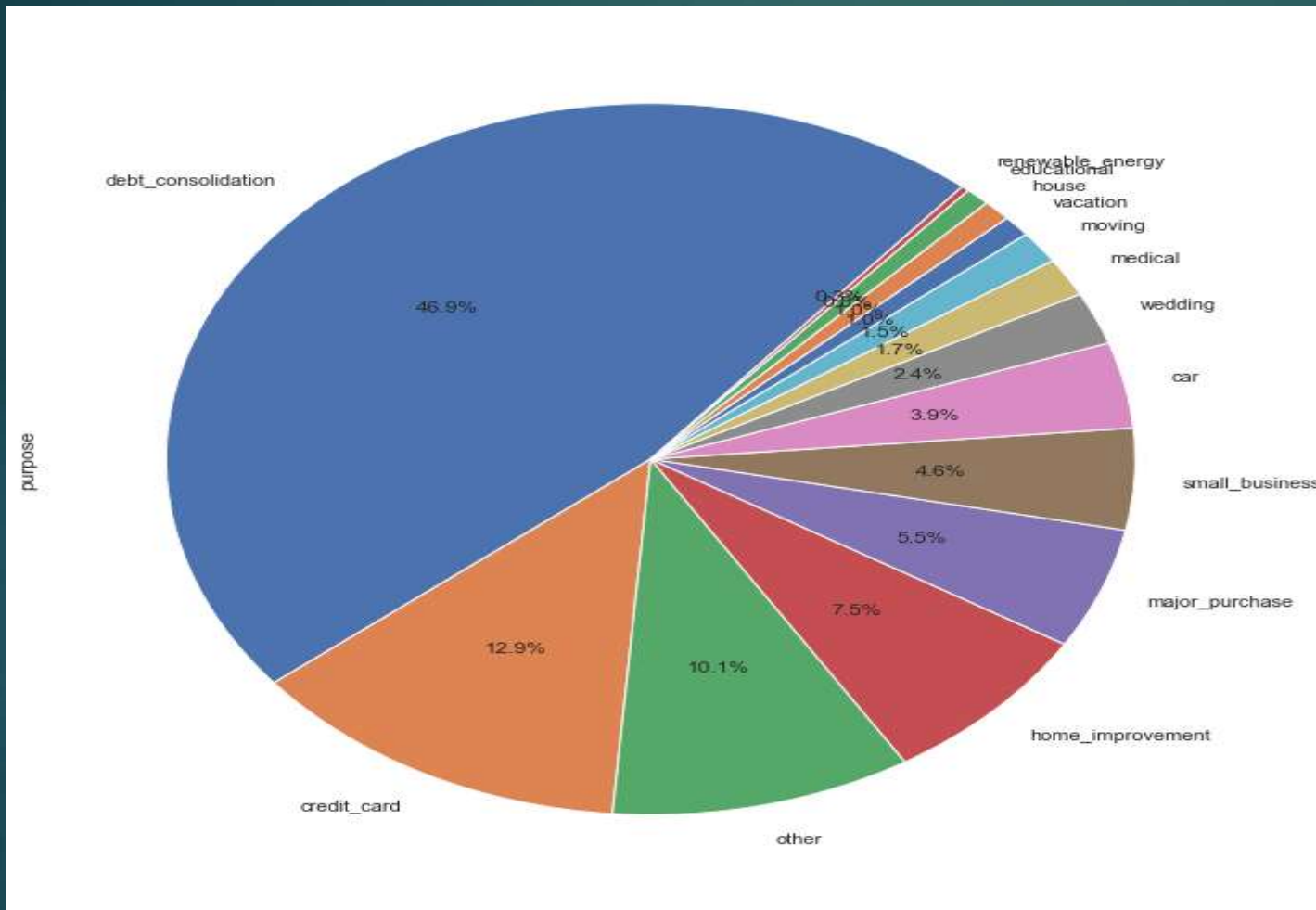
Approach of Analysis

- Data Cleaning

- Deriving Metrics

- Univariate Analysis

   Segmented Univariate Analysis

- Bivariate Analysis

- Multi-variate Analysis
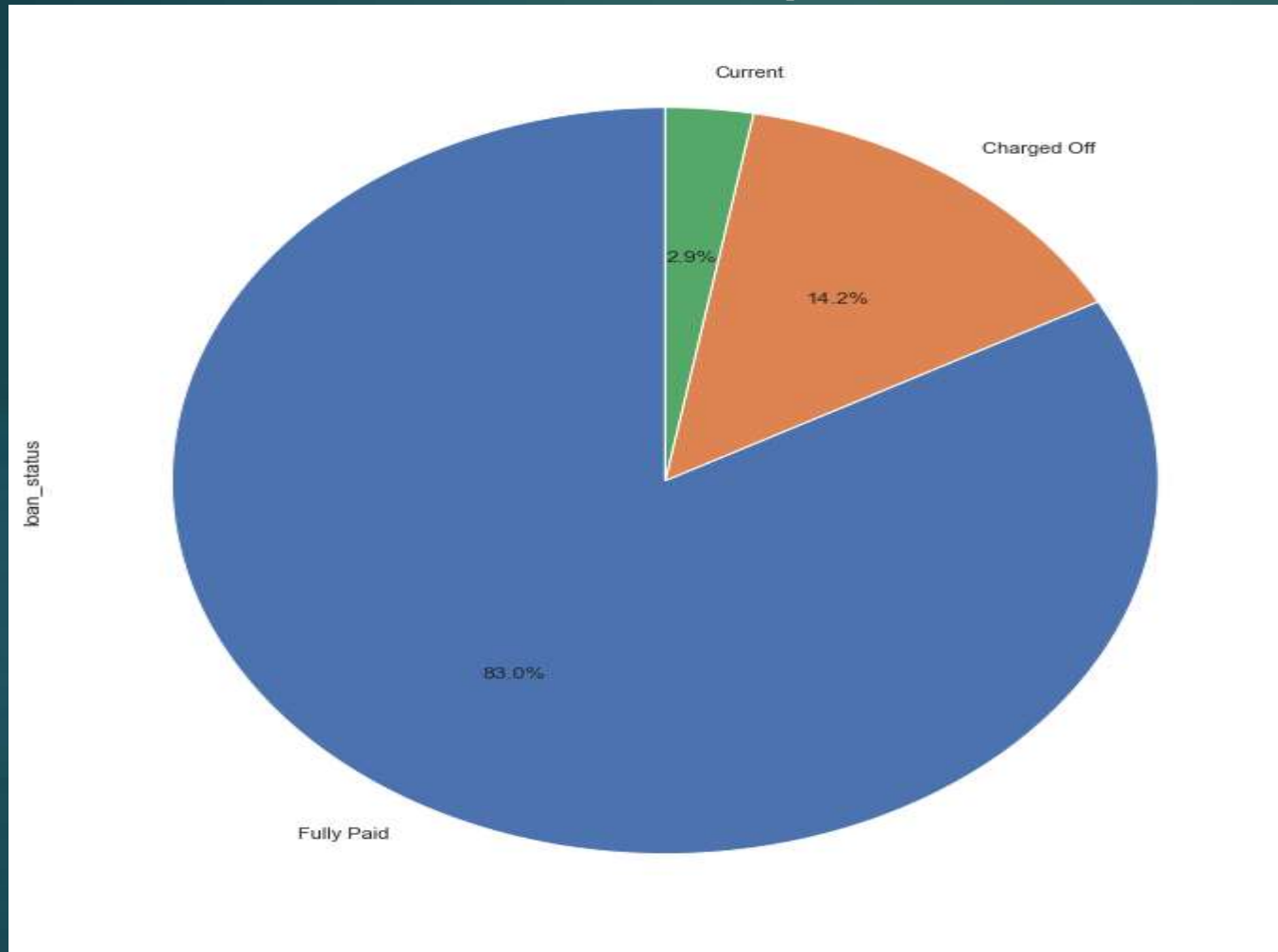
Univariate Analysis
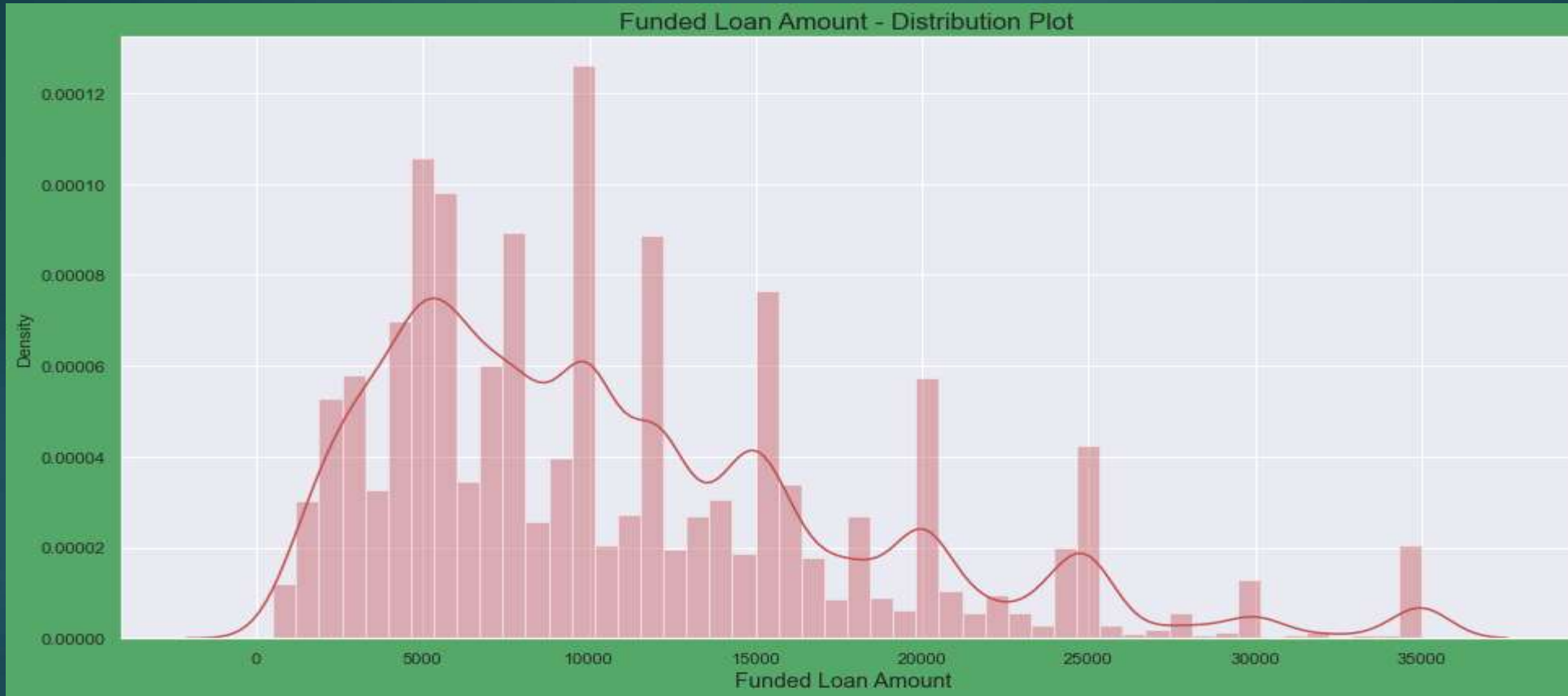
☐   # Observation : Majority of borrowers funded_amount is between 5000-10000.
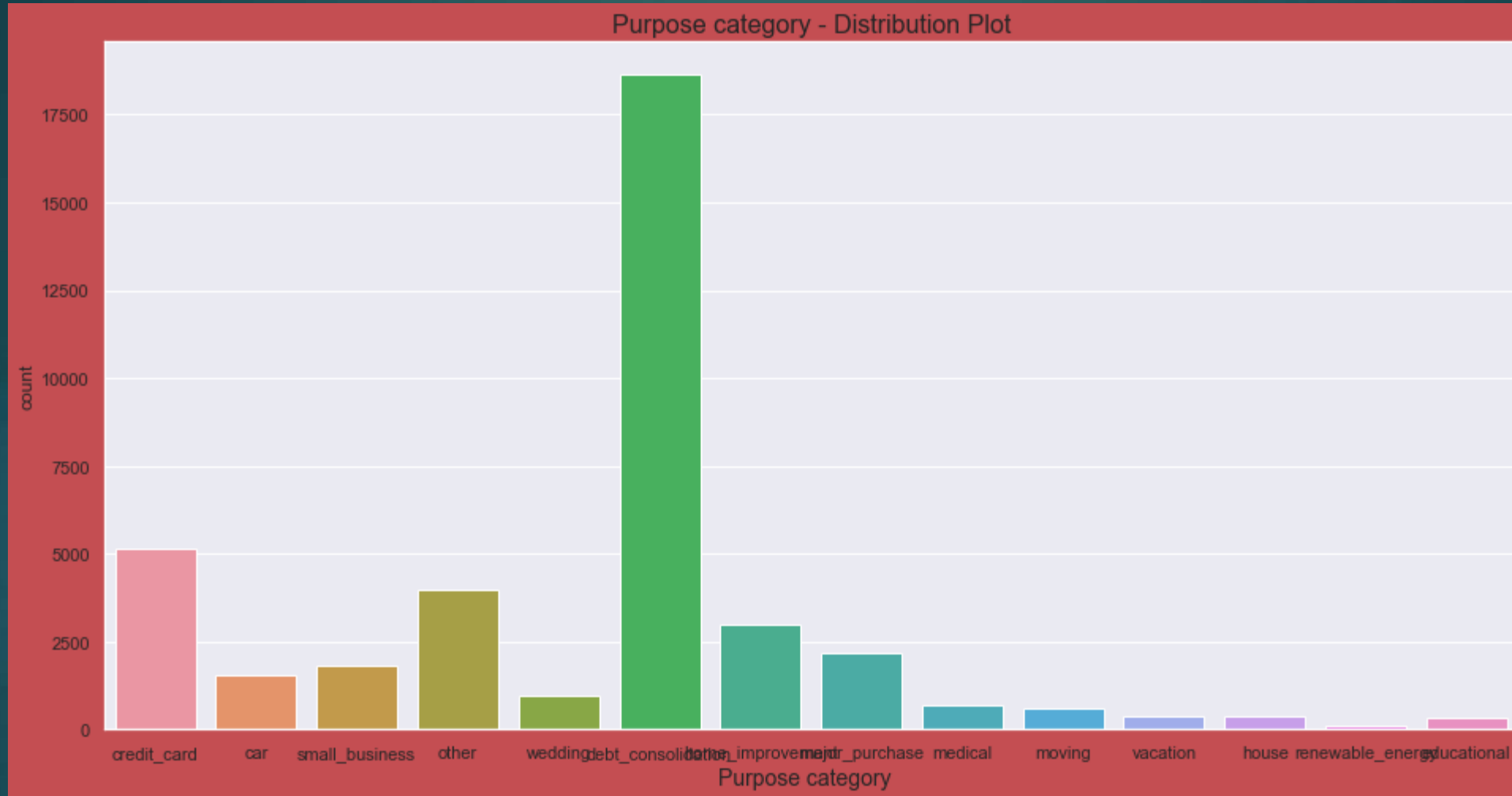
Univariate Analysis

Observation : From the above pie_chart we observed 46.9% borrower have taken loan for "Debt_consolidation" followed by 12.9% for "credit_card"
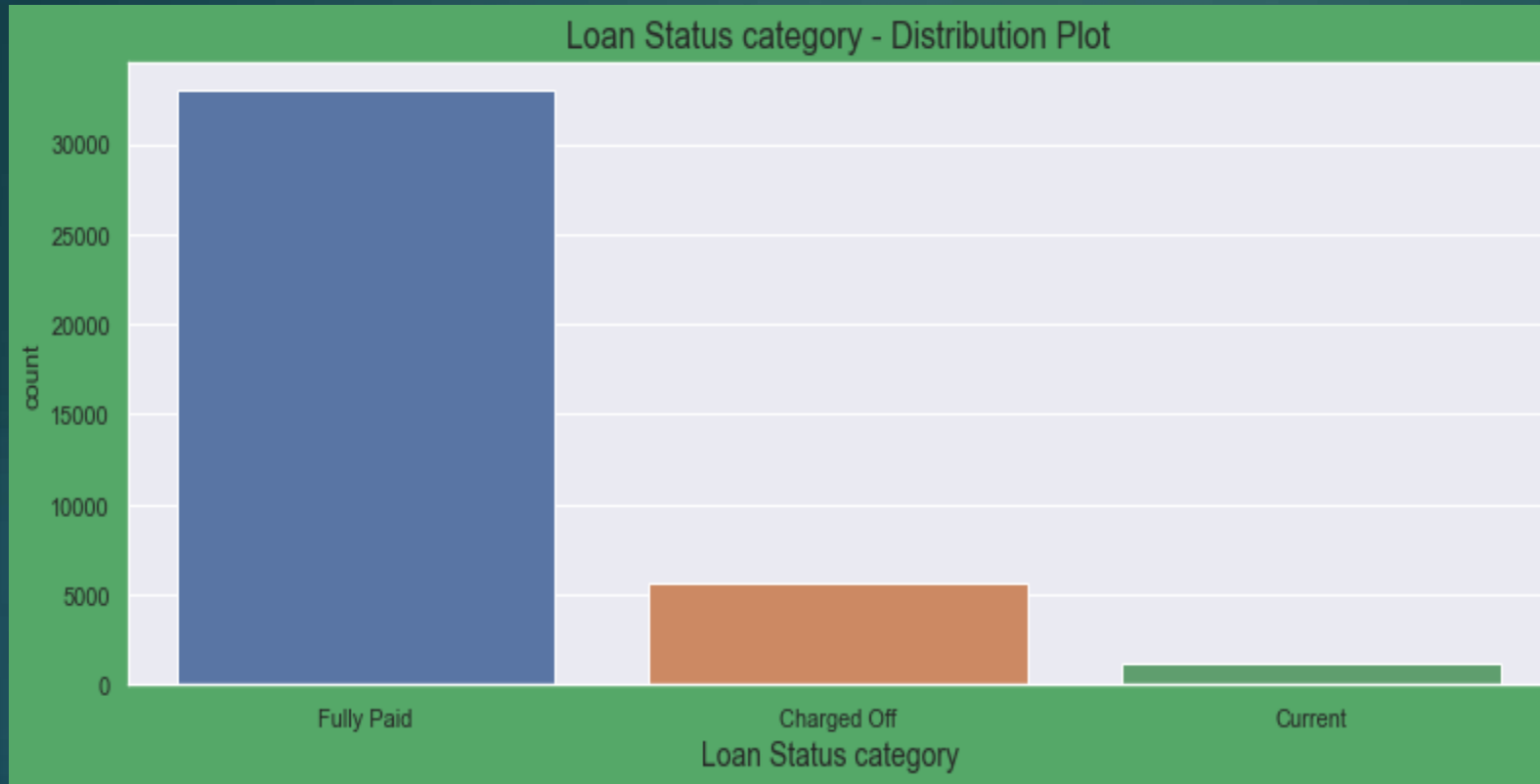
Univariate Analysis

Observation : Maximun borrowers paid their full loan ie:83%, while 14.2% of borrowers are charged off and 2.9% borrowers still paying their loan.

Univariate Analysis

Purpose category - Distribution Plot

Observation : From above count plot maximum people take loan for debt_consolidation purpose followed by credit card

Univariate Analysis


Loan Status category - Distribution Plot

Observation : From the above countplot we can observe that around 32000 borrower has Fully_paid their loan while around 6000 borrower are Charged_off(debt is overdue) and around 500 borrower loan is still in processes.

Segmented Univariate Analysis

emp_length	loan_amnt	int_rate	annual_inc	dti	revol_util
0	8625.139535	10.897842	45986.771163	12.956456	42.708967
1	9869.417103	11.980584	61599.257190	12.769702	48.589496
2	10262.374658	12.074045	63274.654284	13.103719	48.636190
3	10738.278388	12.019673	66787.176313	13.163175	48.216542
4	10977.408324	12.173417	66583.750873	13.187616	49.412937
5	11287.035344	12.035268	68225.197441	13.421825	48.331106
6	11494.952894	12.070314	68184.612831	13.821350	49.591449
7	11739.495206	12.174969	69153.087986	13.674473	49.686317
8	11887.998648	11.906302	74590.461799	13.773793	48.318404
9	12011.625596	11.913060	74474.421304	13.540310	48.783935
10	13089.970717	12.094797	81706.525735	13.716438	49.584756

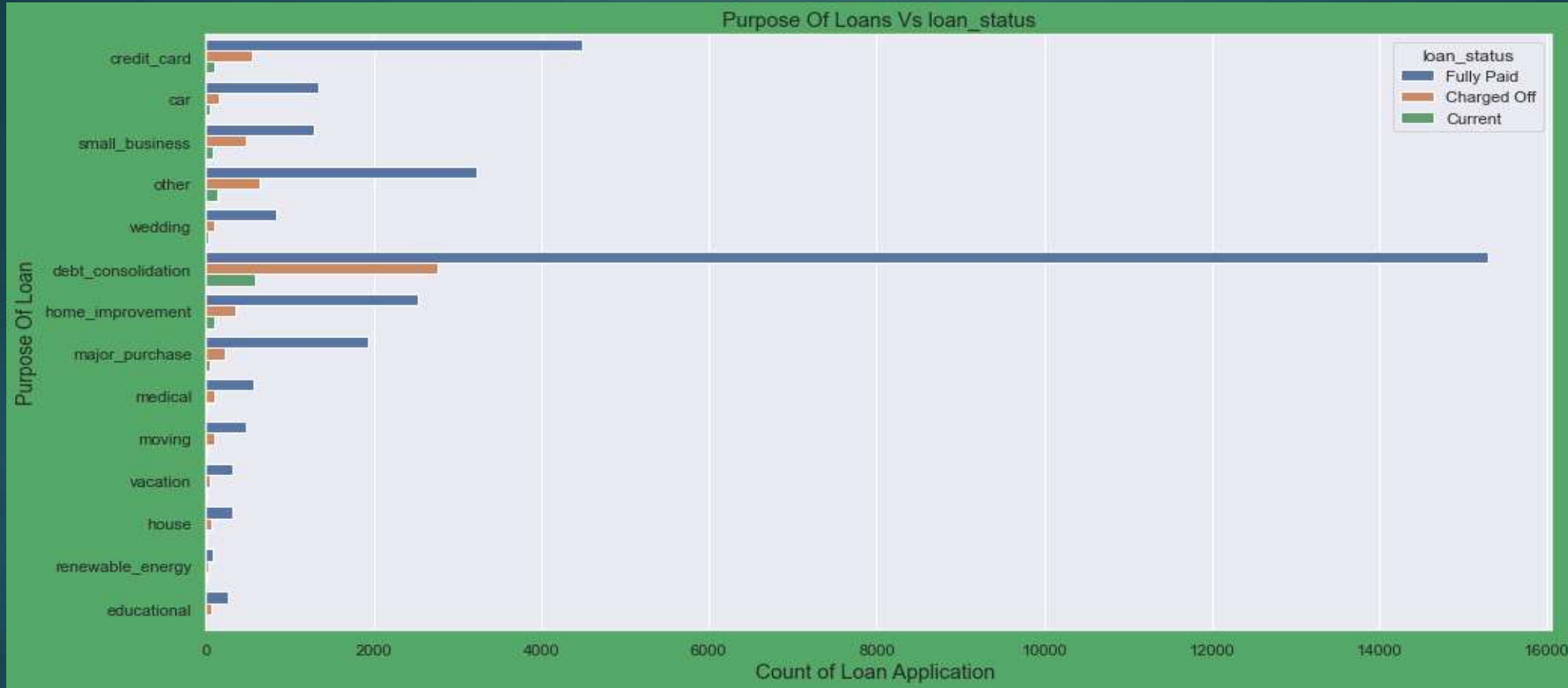Observation : With the increase of the working experience the annual income of the borrower increases along with loan amount

Bivariate Analysis

Interest_rate vs Term
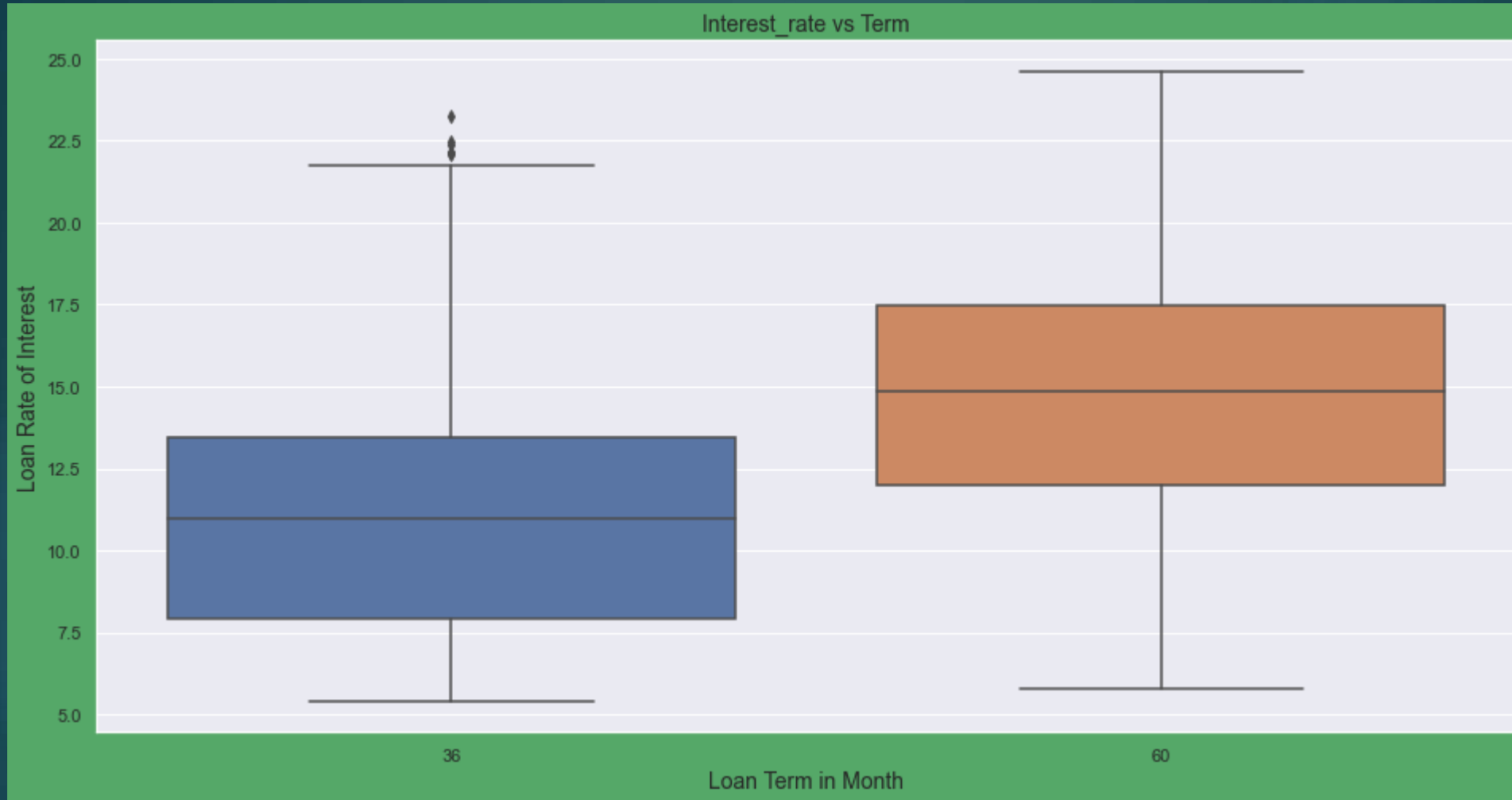
Observation : From the box plot we observe that borrower taken loan for longer duartion i.e:60_months have assign high interest_rate as compare to 36_months.

Bivariate Analysis

Observation : As most borrower have taken loan for debt_consolidation there is a high number of Fully_Paid status in debt_consolidation and Charged_Off.
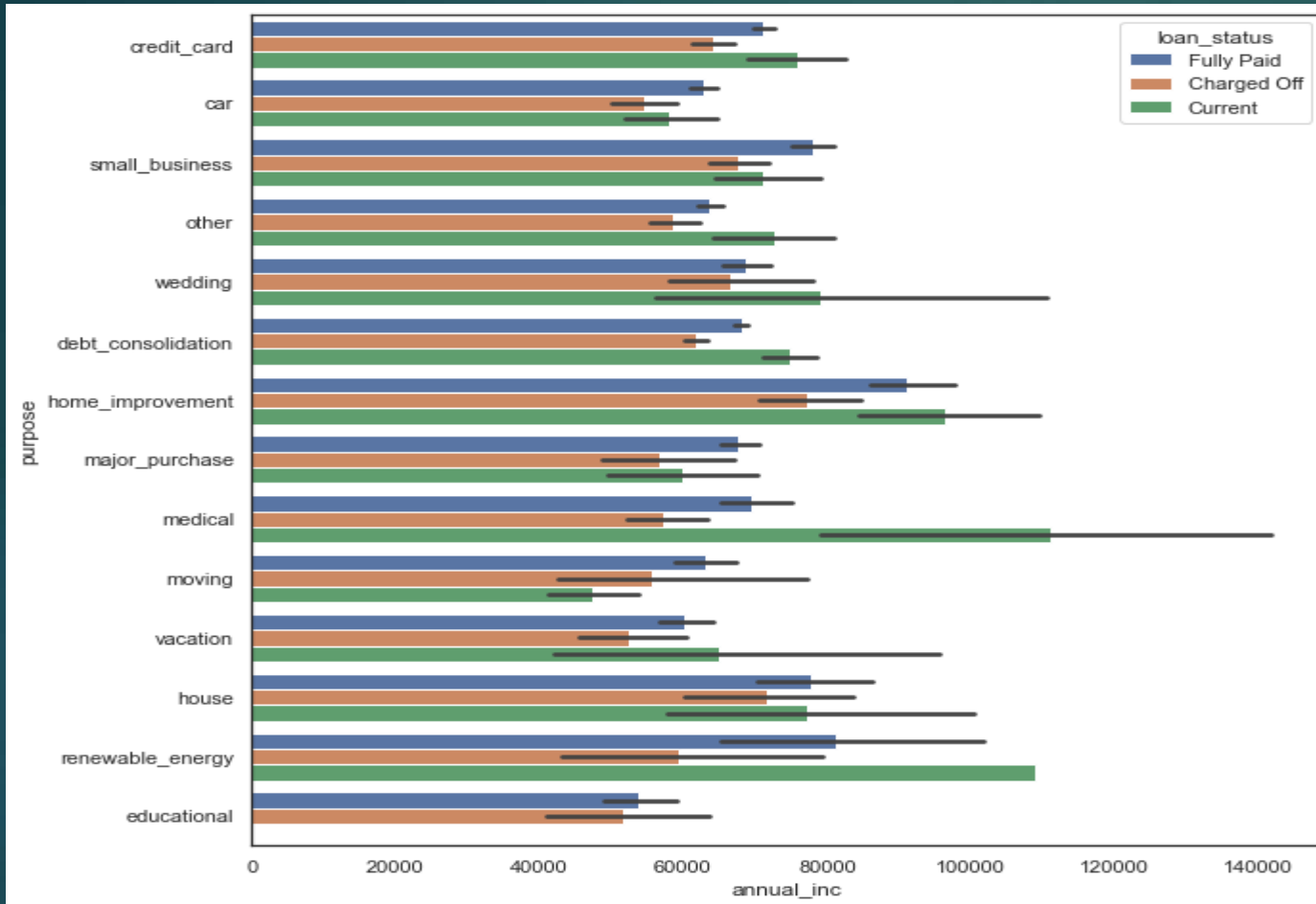
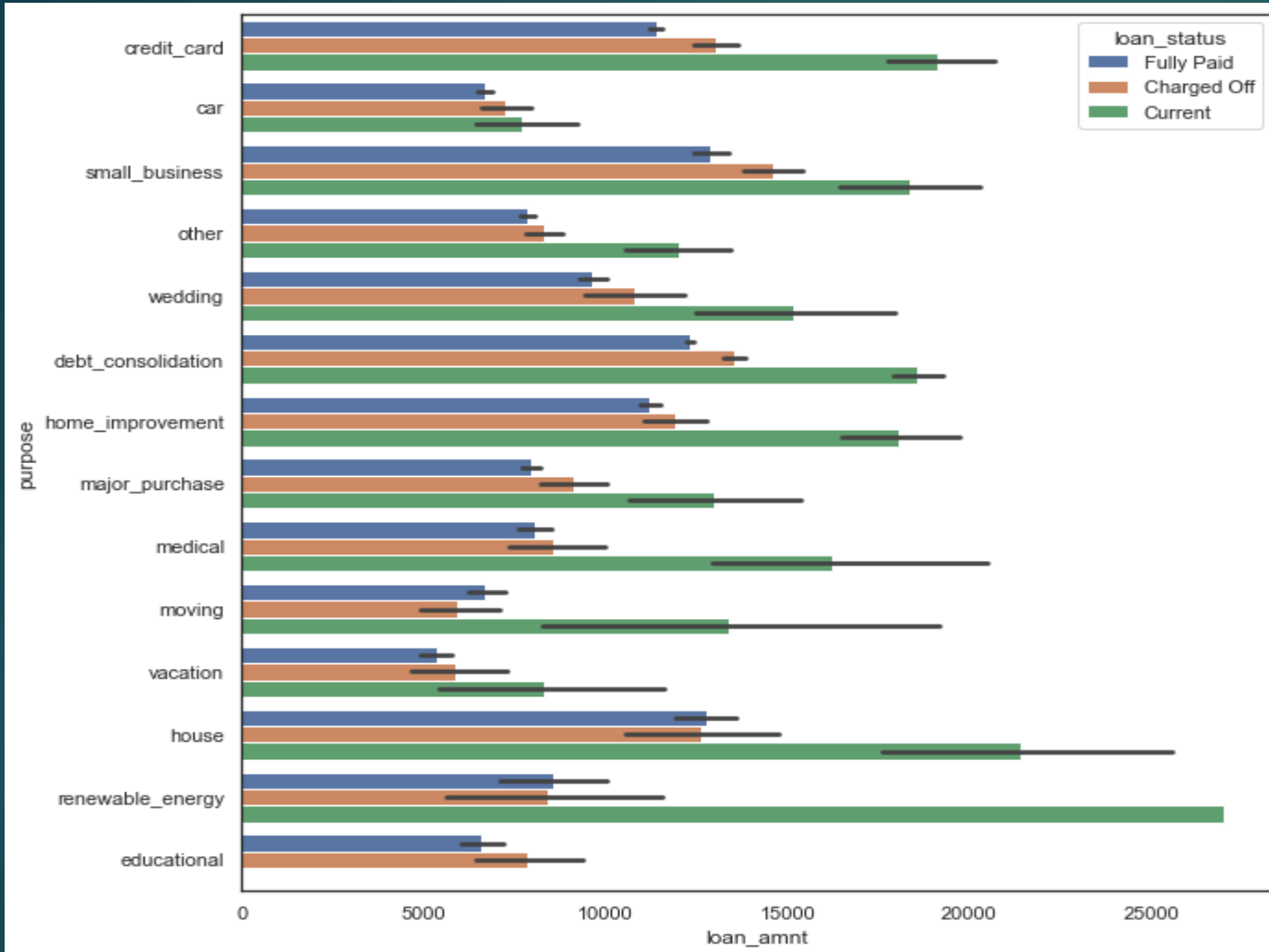# Bivariate Analysis

Home Status Vs Purpose Of Loans
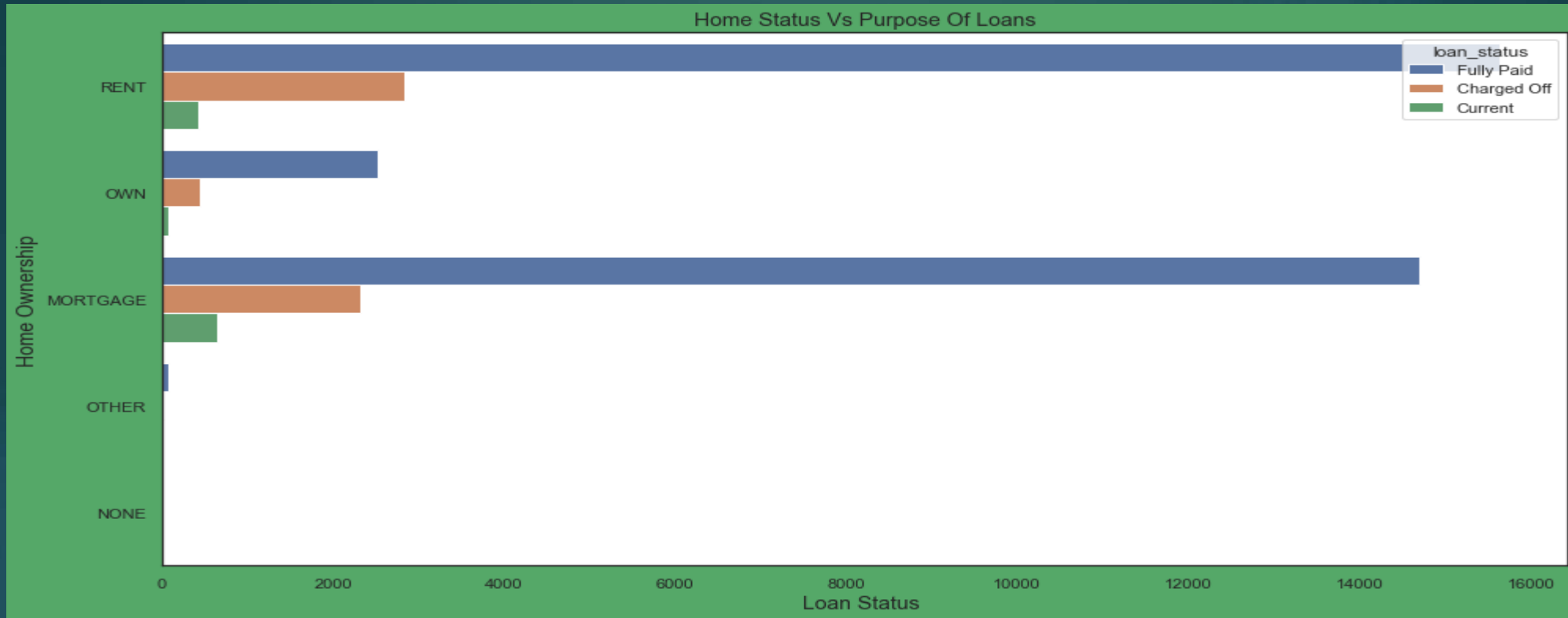
Observation :
1) The highest proportion of the borrowers use to live in rented housing followed by mortgage house
2) Maximum charged of borrowers lives in a rented house
3) Borrowers with own house takes less number of loans in comparision to rented and mortgage borrowers
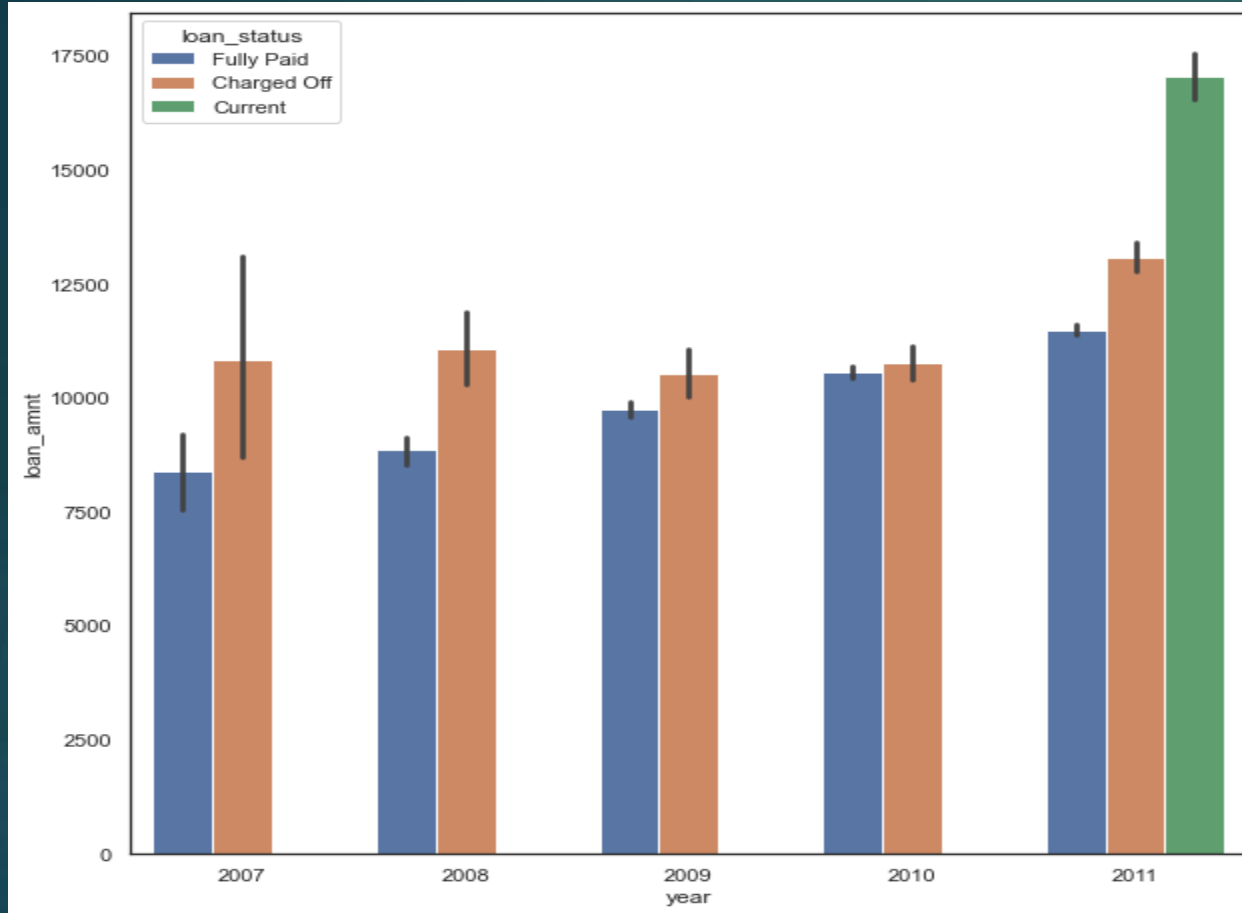
Multivariate Analysis

Observation : Borrower with higher salary mostly applied loans for "home_improvment", "house", "renewable_energy" and "small_businesses"

Multivariate Analysis

Observation : Among all the purpose of loan the majority of the loan are there in current state, with higher loan amount in comparison to other purposes

Multivariate Analysis

Observation :
1) The fully_paid borrowers increases continously increase from year 2007 to 2011.
2) It has been observed every yeat between 2007 to 2011 the number of charged off borrower is more than the number of fully paid borrowers