

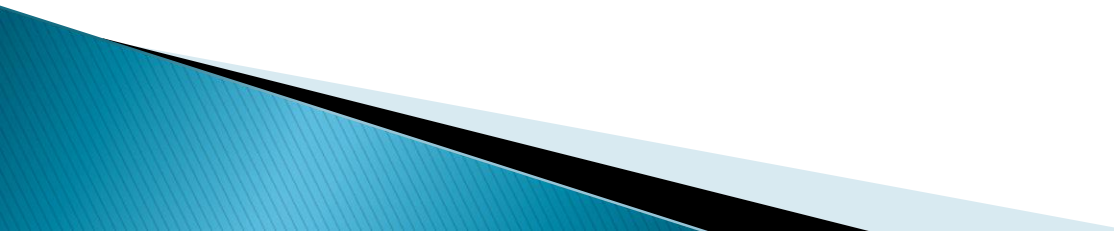
Presentation on EDA Bank Loan Data

Mr. Ankush Kisan Patil

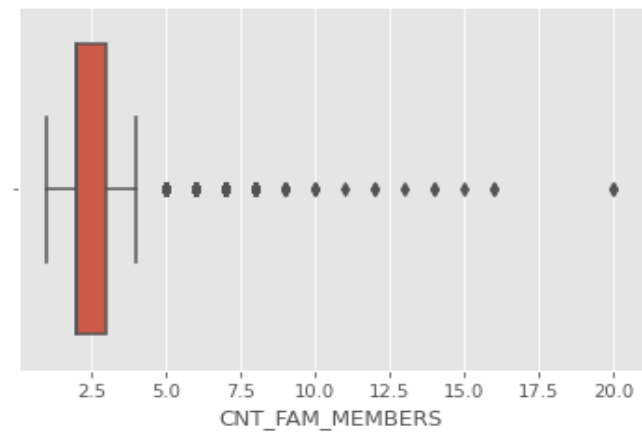
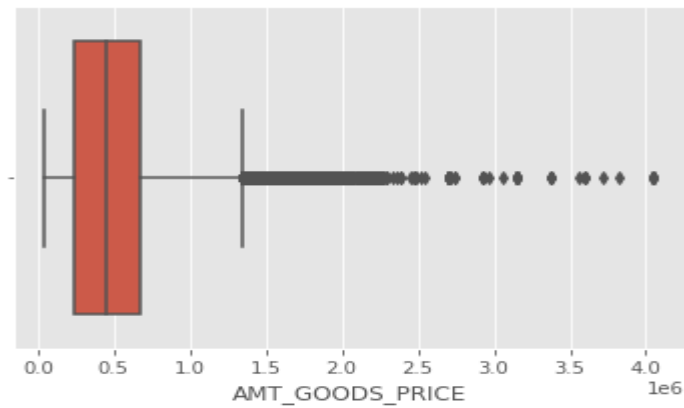
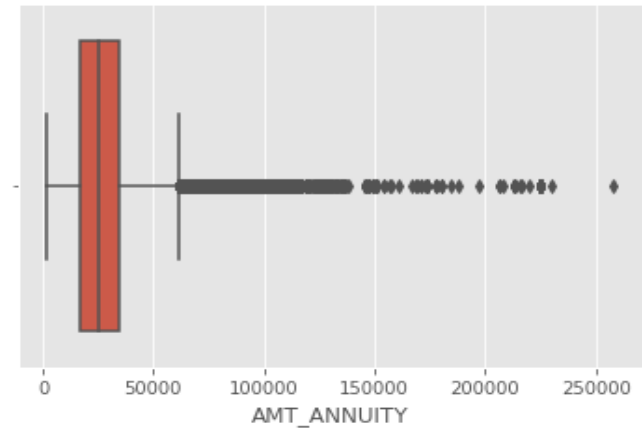
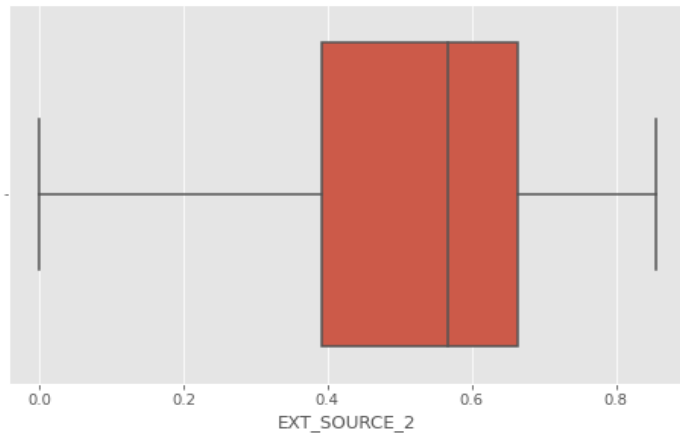
Aim of EDA:

1. Understand how the bank approves and refuses loan. Find out different patterns and represent the outcomes to help the bank reduce the credit risk and interest risk. By using EDA analysis.
2. To develop your understanding of the domain, you are advised to independently research a little about risk analytics - understanding the types of variables and their significance should be enough.

Steps:

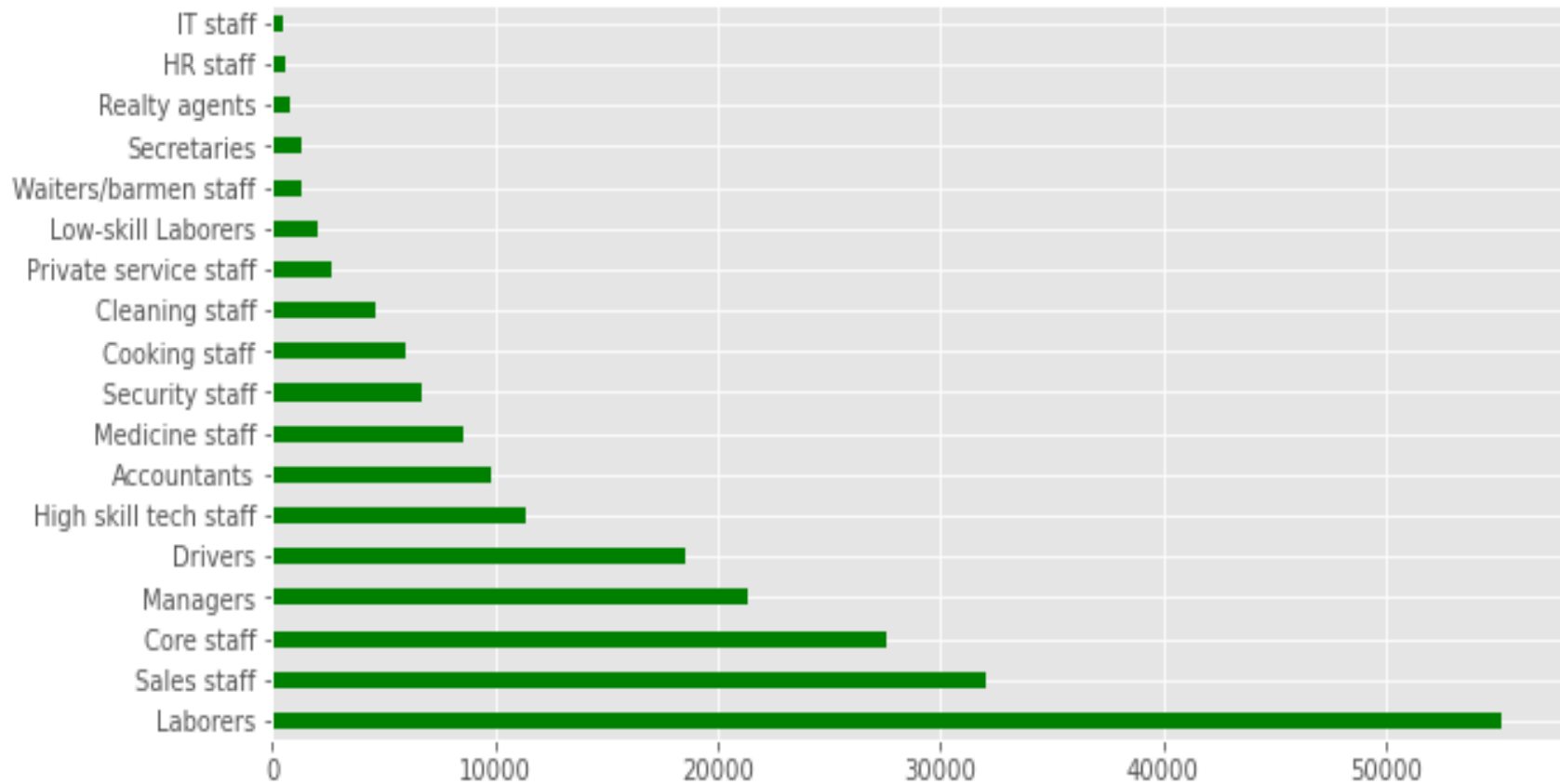
- ▶ Business Understanding
 - ▶ Data Understanding
 - ▶ Importing the libraries and files and check data.
 - ▶ Data Analysis
 - ▶ Values to impute in columns, binning of data, imbalance in Target
 - ▶ Univariate Analysis: Categorical Ordered Analysis and Categorical Ordered Analysis, Categorical Ordered Analysis
 - ▶ Correlation of the selected columns
 - ▶ Bivariate Analysis of numerical variables
 - ▶ Data Analysis For Previous Application Data
 - ▶ Univariate analysis
 - ▶ Correlation in the Previous Application.
 - ▶ Bivariate analysis on numerical columns
 - ▶ Merging the files and analyzing the data
 - ▶ Recommendation
- 

Impute of value:



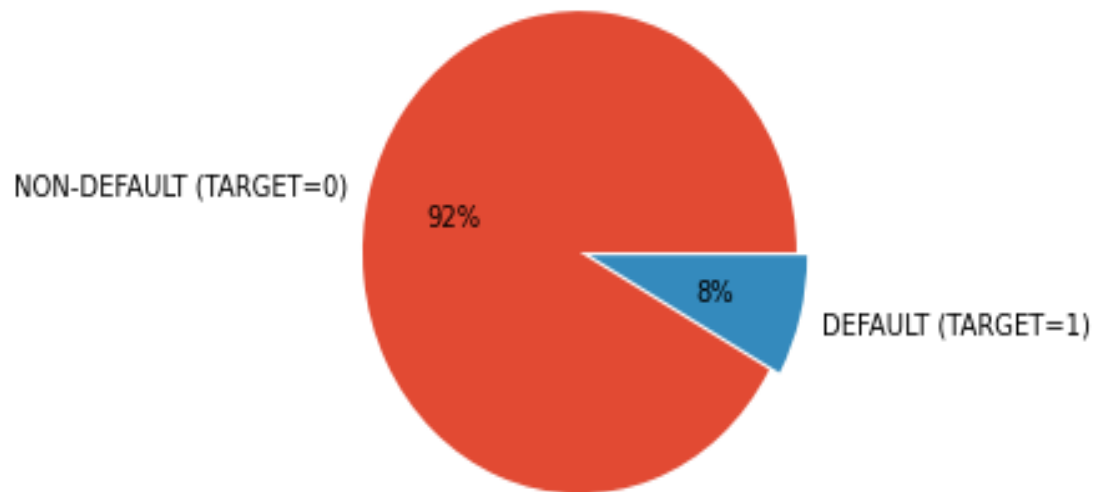
► **Percentage of Type of Occupations**

Percentage of Type of Occupations



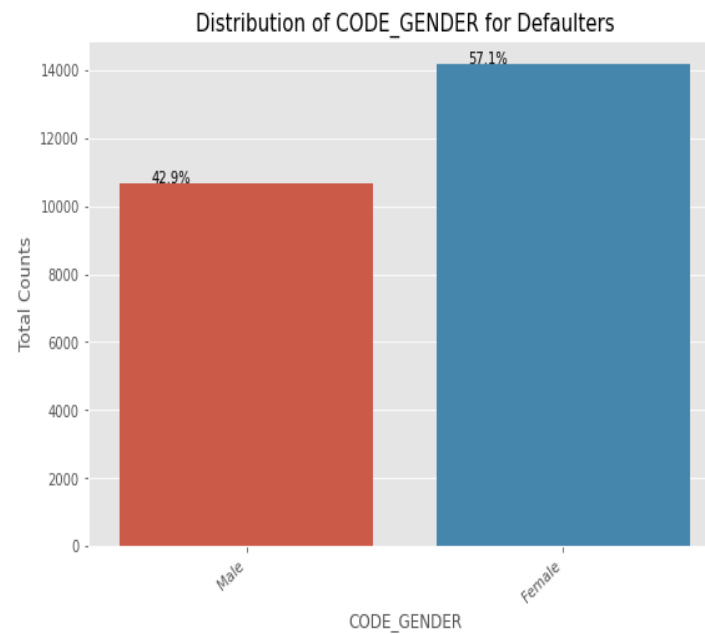
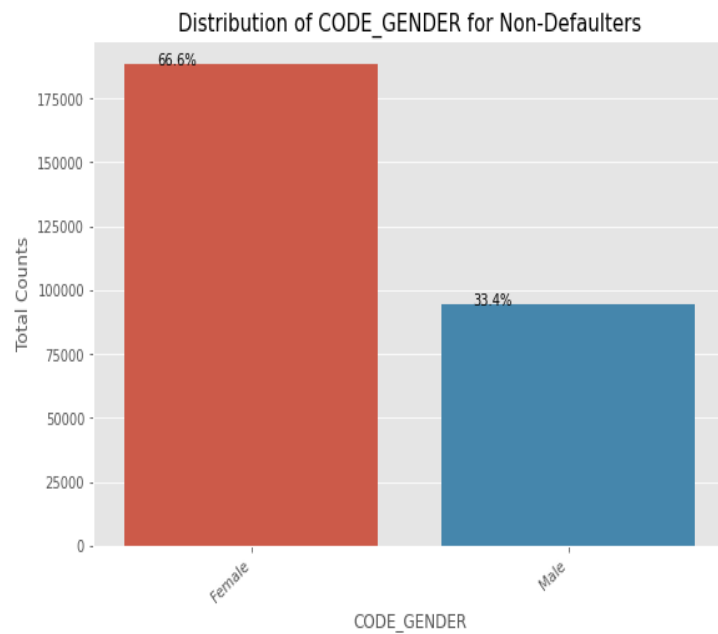
Imbalance in Target

TARGET Variable - DEFAULTER Vs NONDEFAULTER

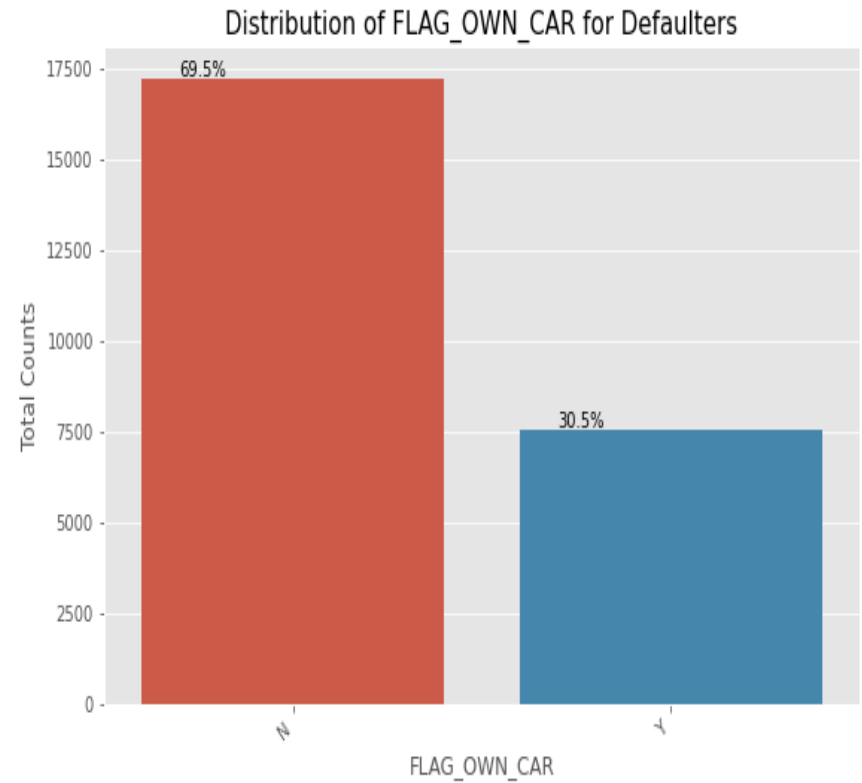
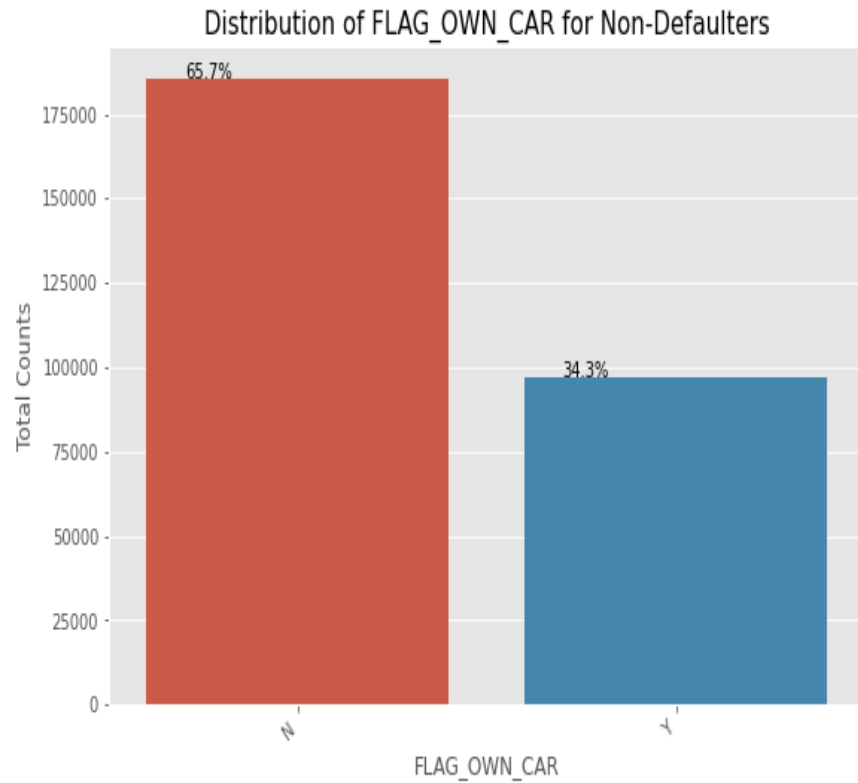


Univariate Analysis:

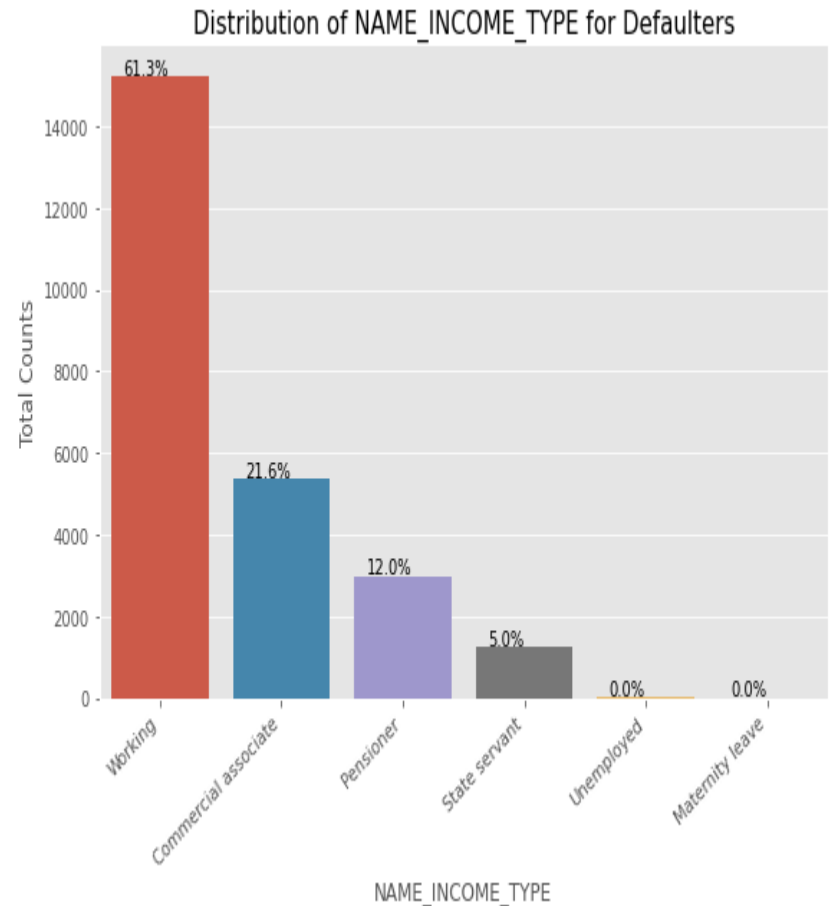
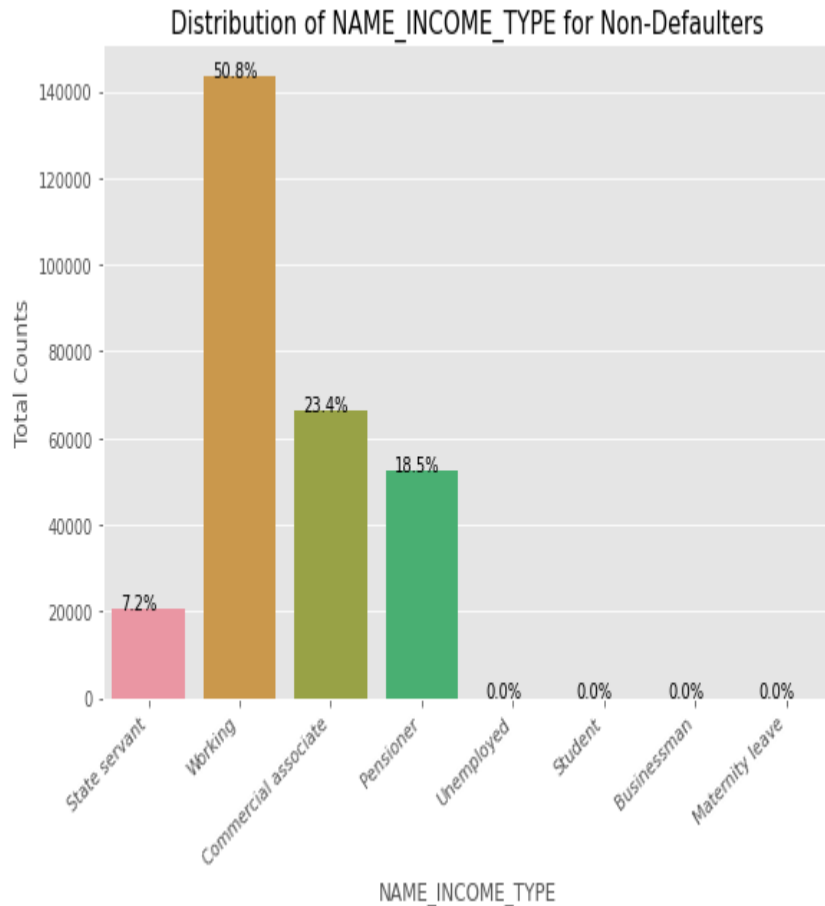
- **Categorical Ordered Analysis:** Defaulter and no-defaulter as per Gender



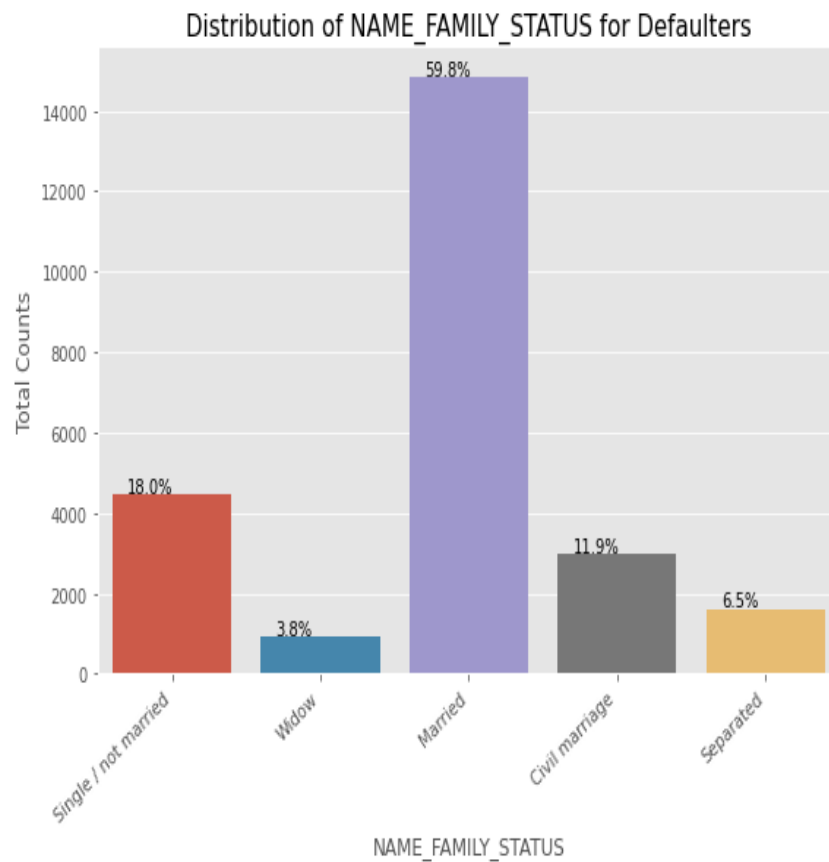
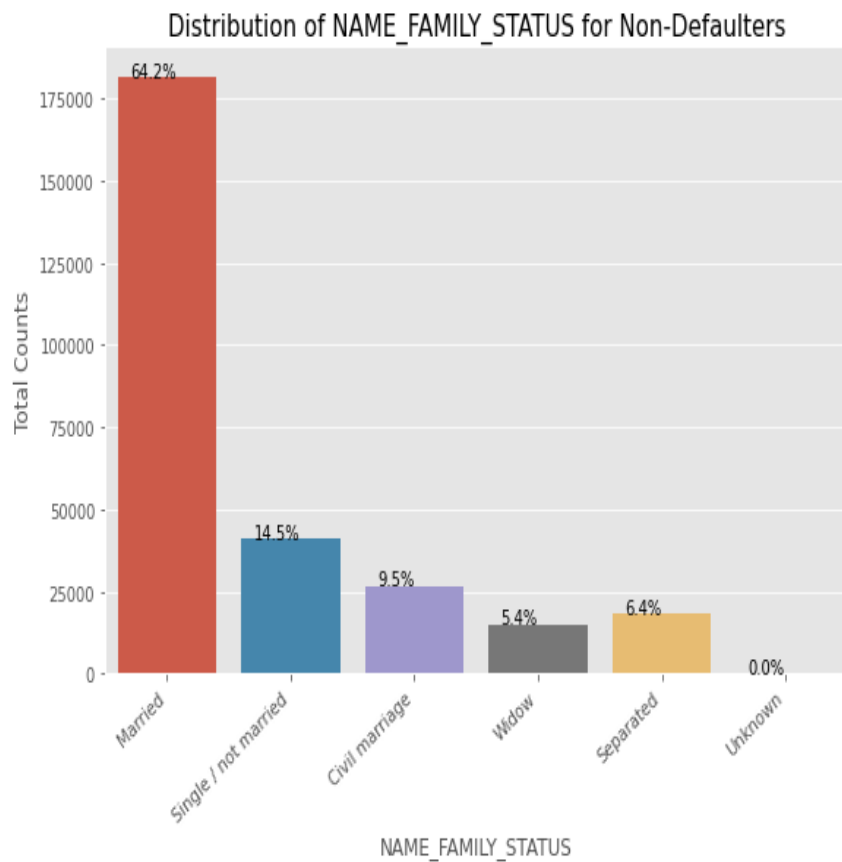
- **Categorical Ordered Analysis:** Defaulter and no-defaulter as per flag own car



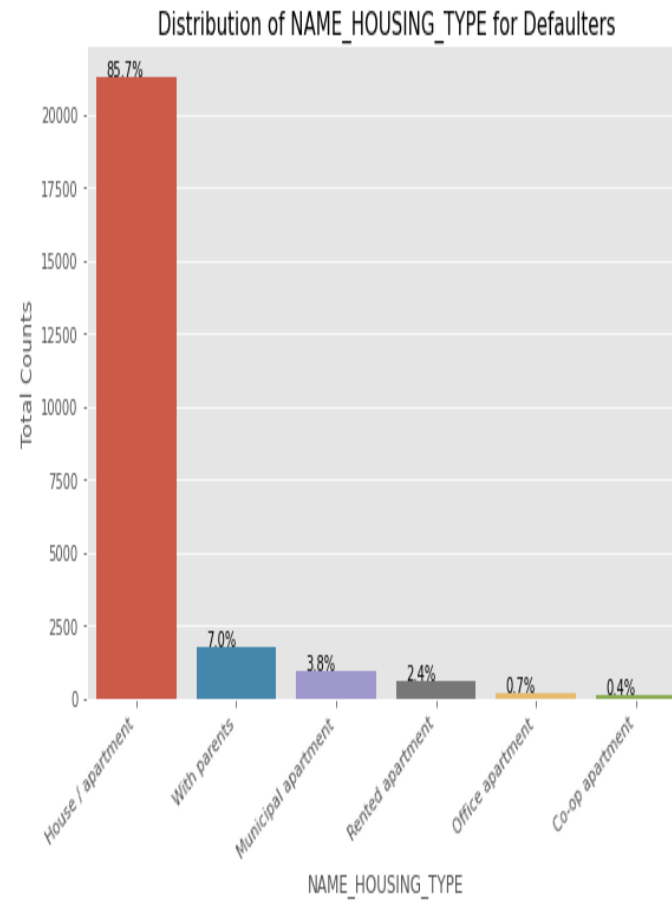
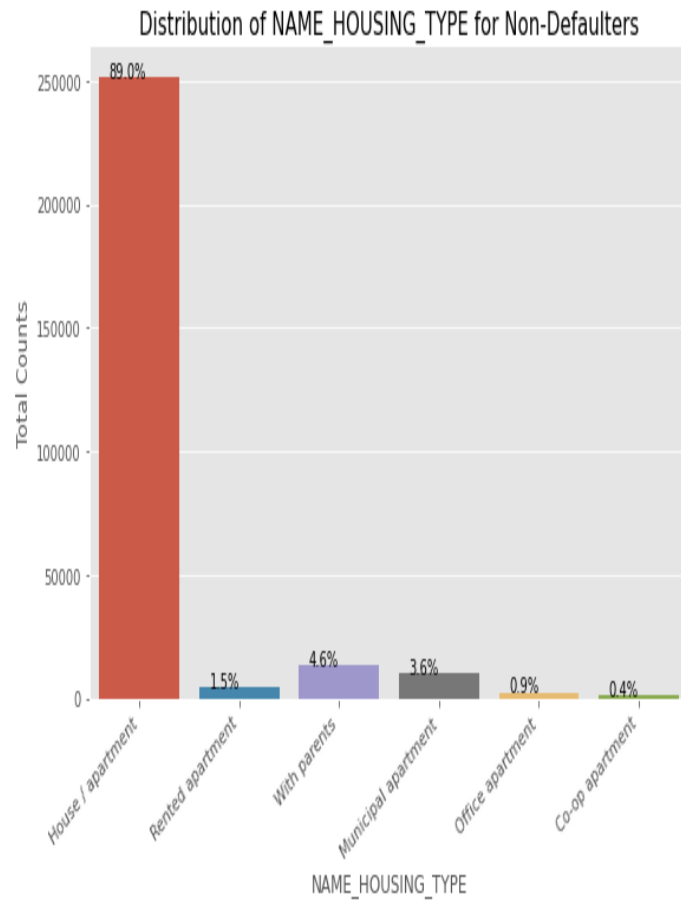
► **Categorical Ordered Analysis:** Defaulter and no-defaulter as per name income type



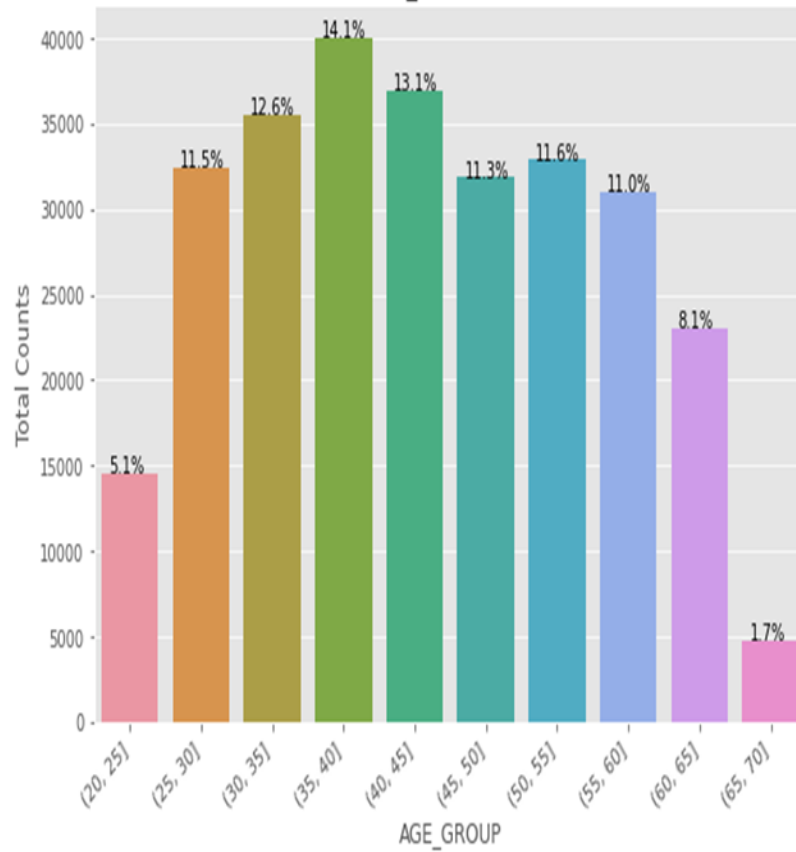
► **Categorical Ordered Analysis:** Defaulter and no-defaulter as per name family status



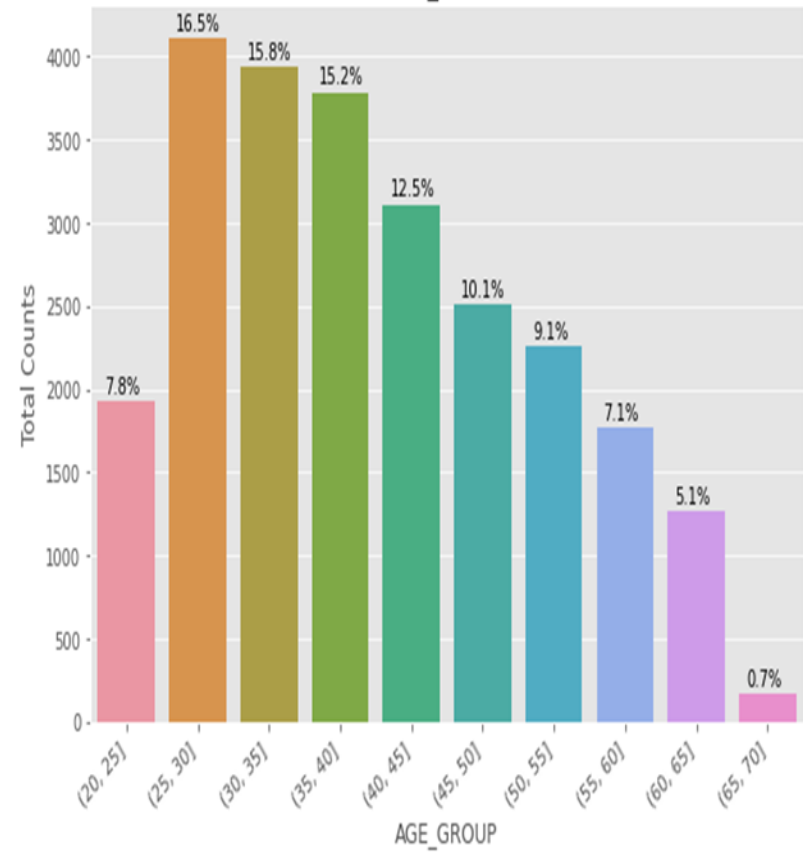
► **Categorical Ordered Analysis:** Defaulter and no-defaulter as per name housing type



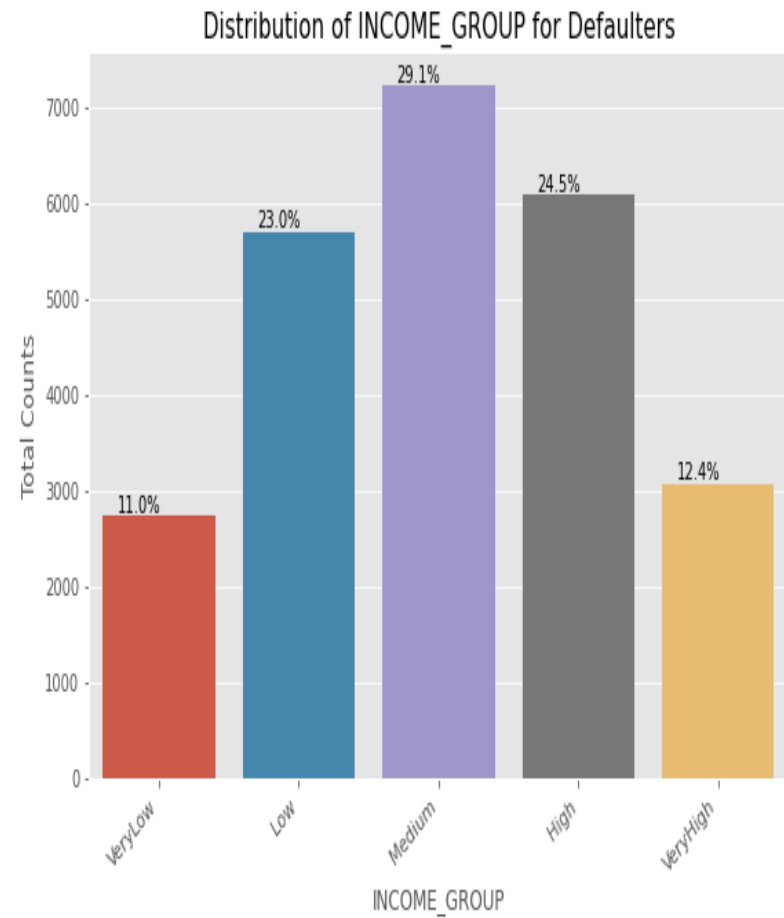
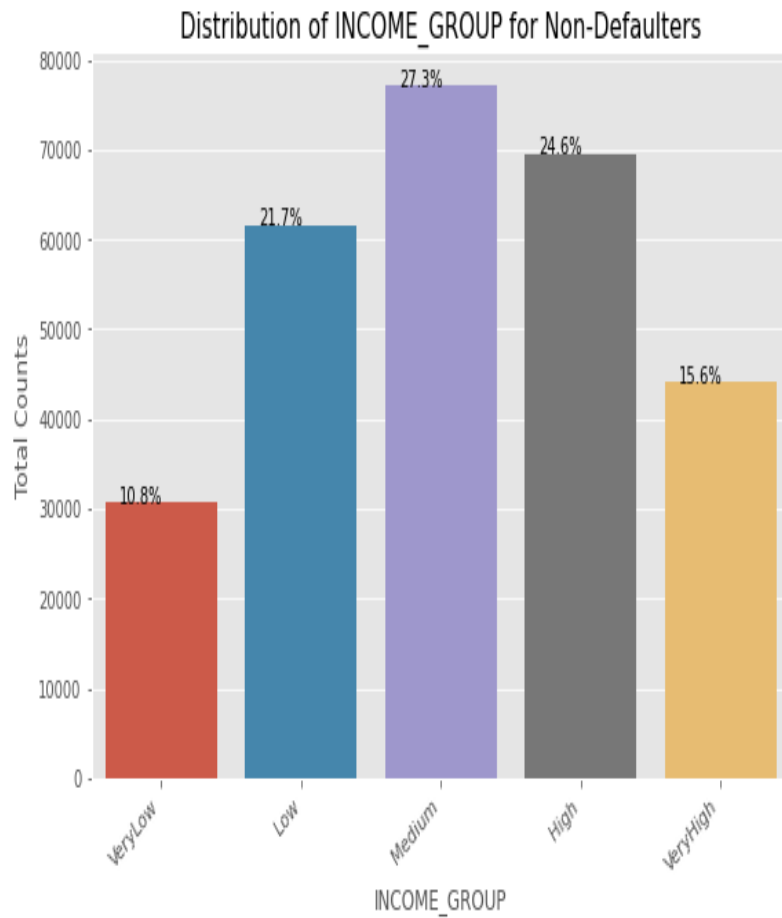
Distribution of AGE_GROUP for Non-Defaulters



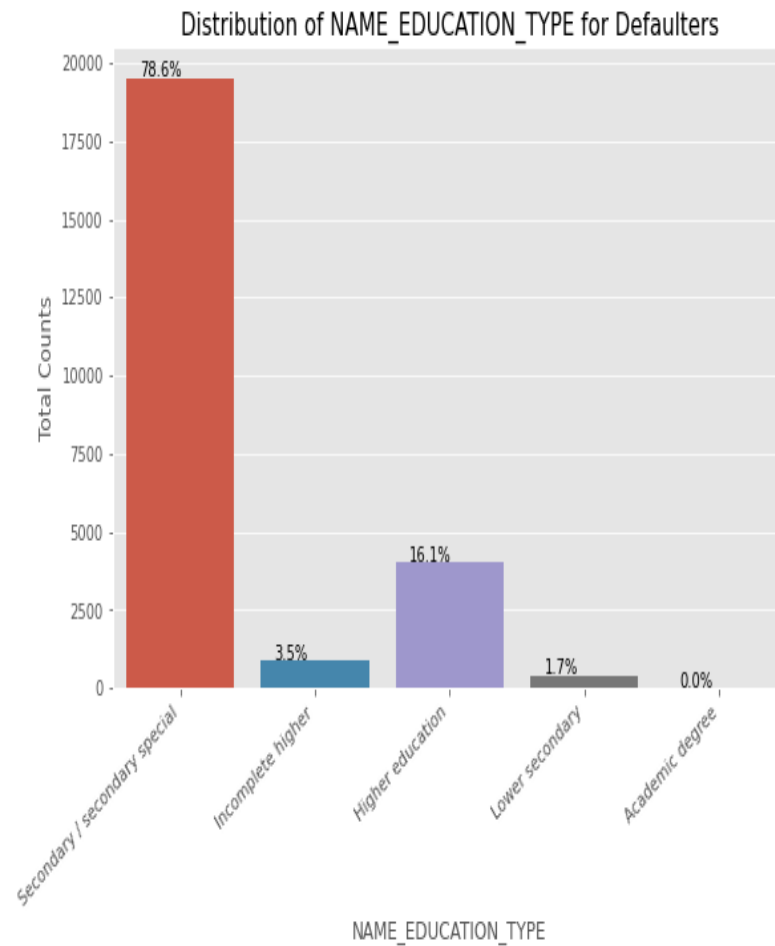
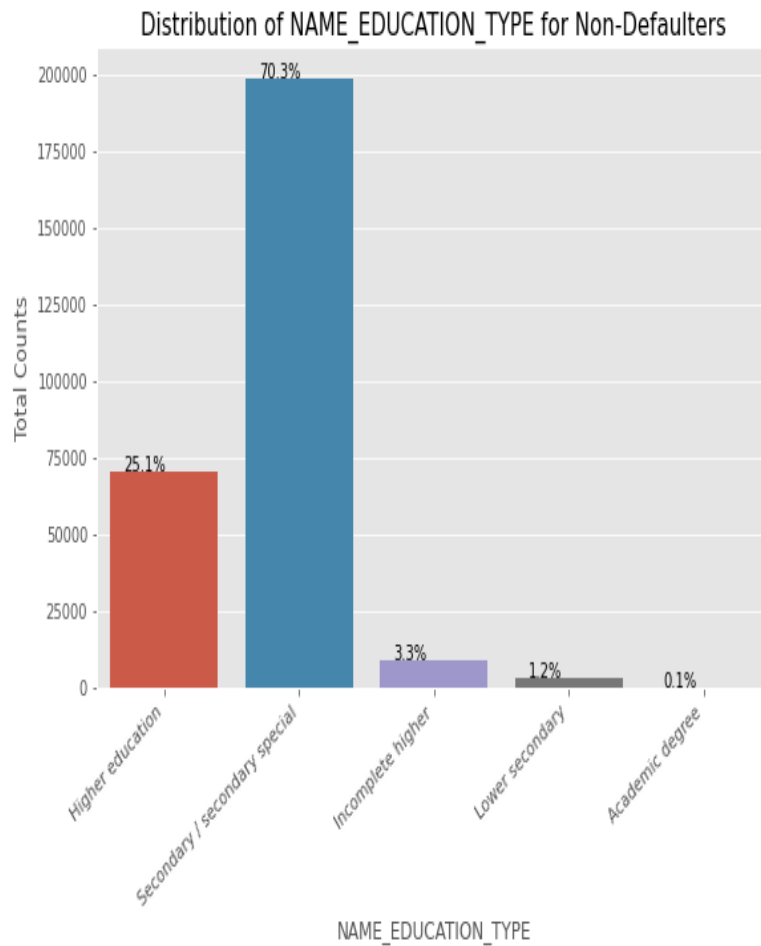
Distribution of AGE_GROUP for Defaulters



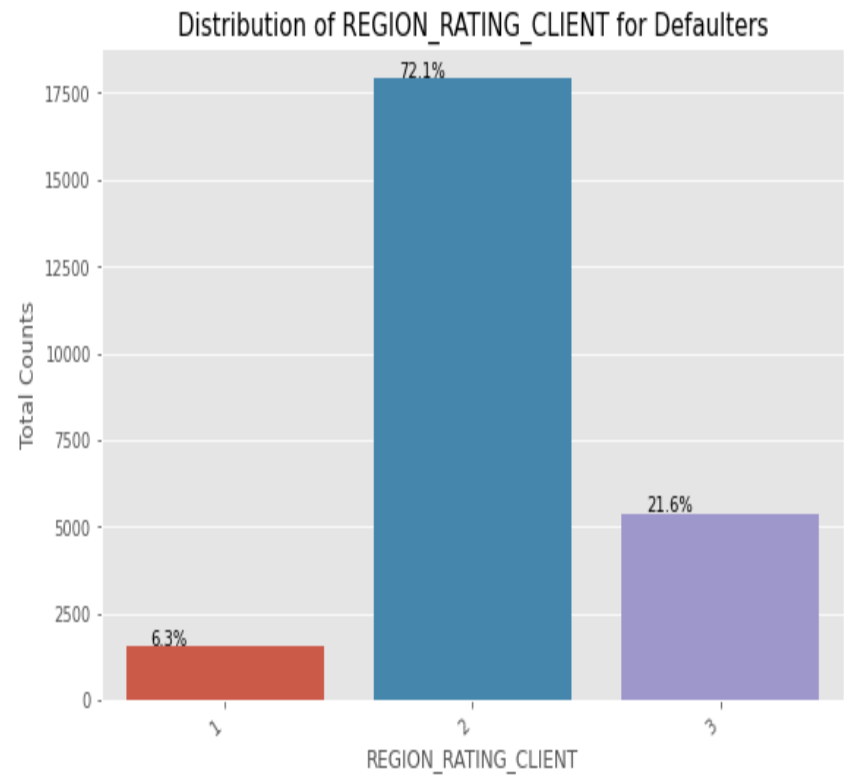
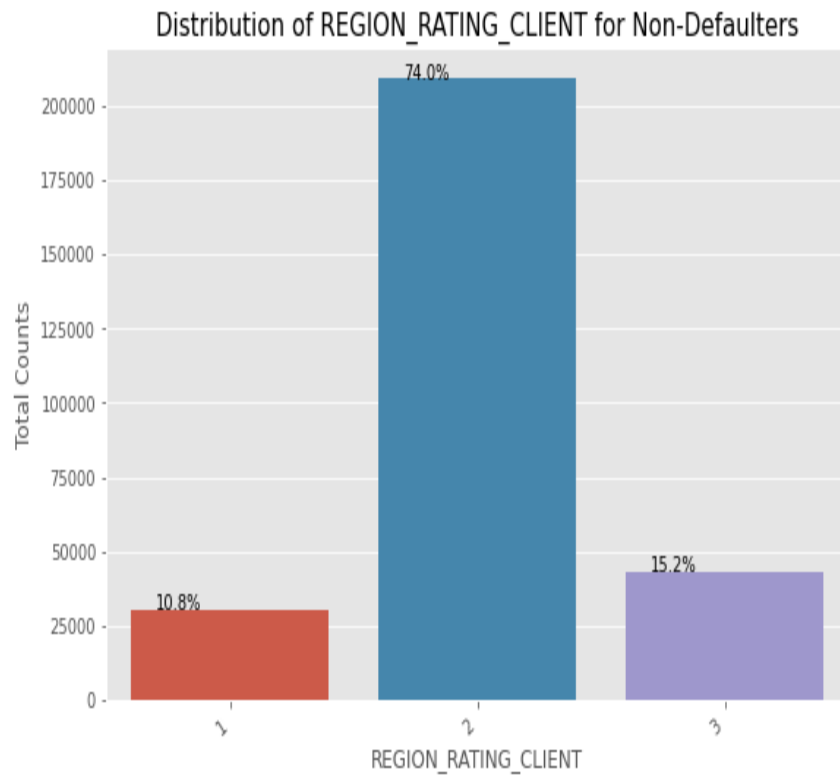
► **Categorical Ordered Analysis:** Defaulter and no-defaulter as per name income group



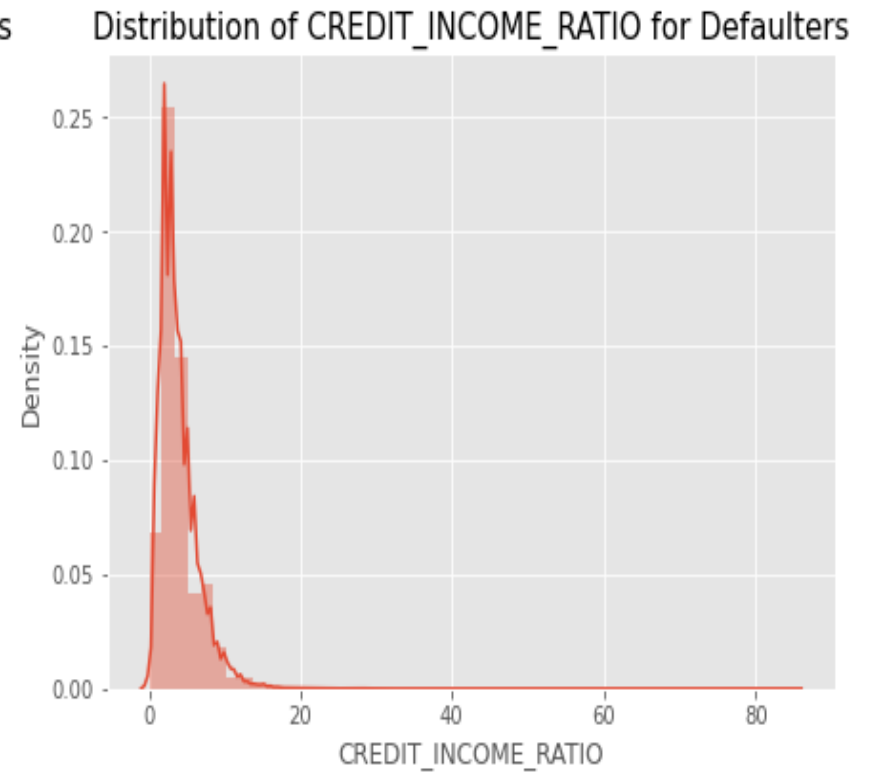
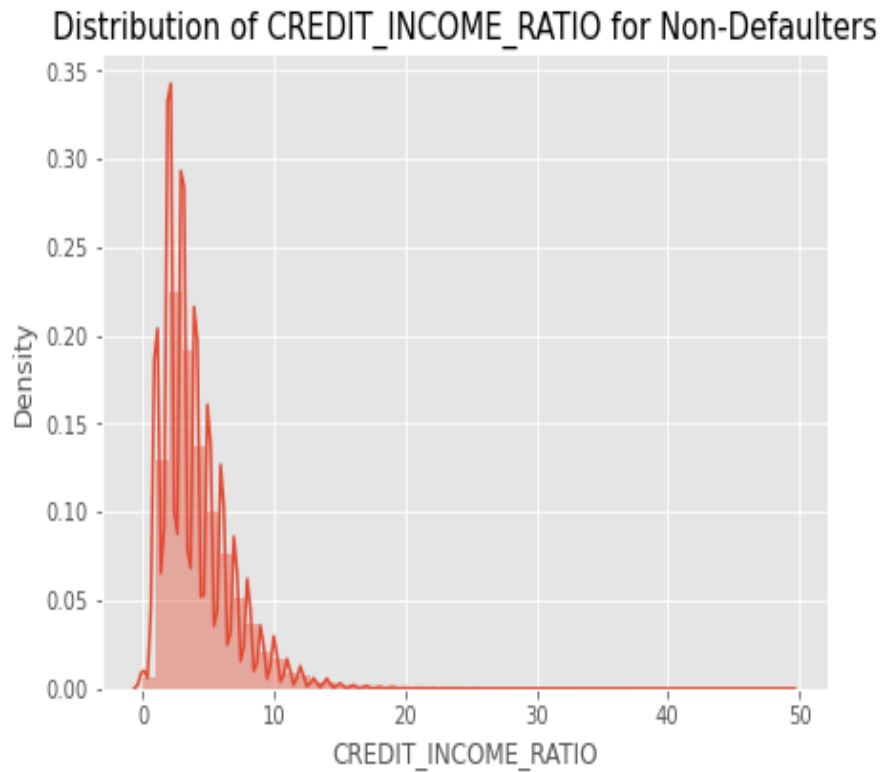
► **Categorical Ordered Analysis:** Defaulter and no-defaulter as per name education type



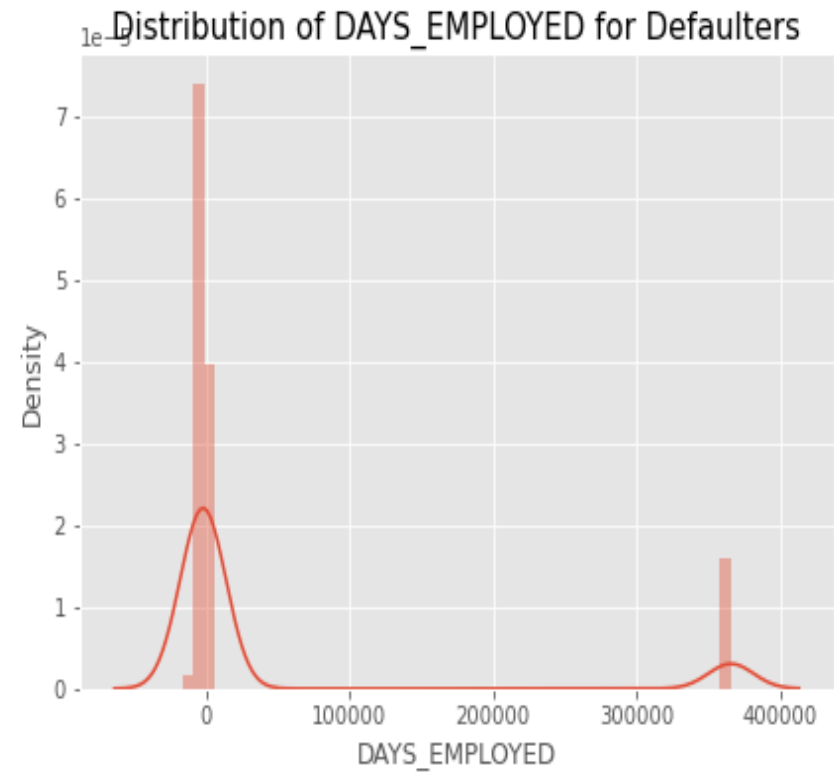
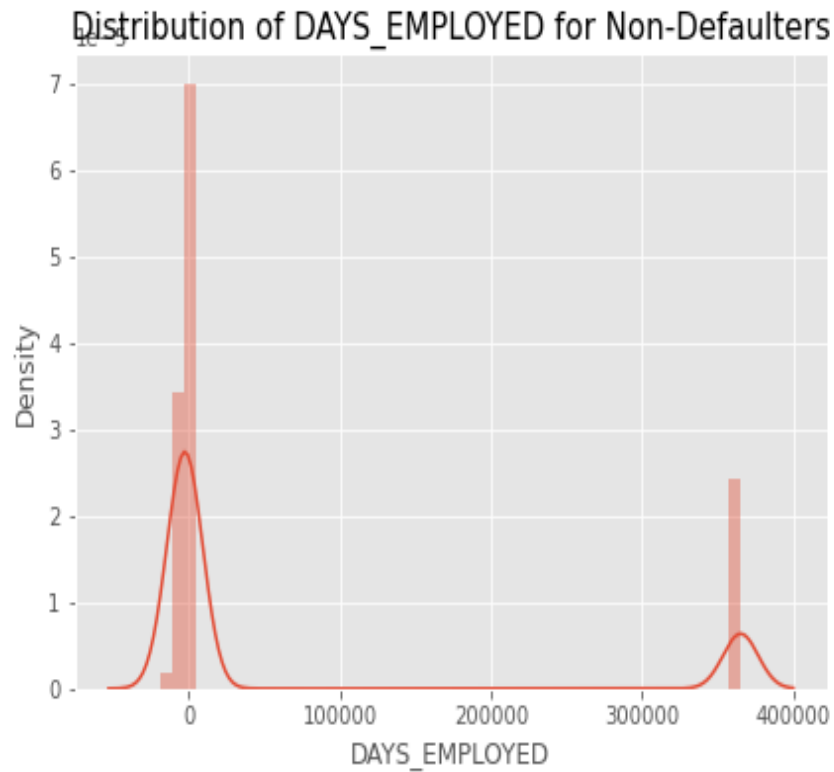
► **Categorical Ordered Analysis:** Defaulter and no-defaulter as per region rating client



Univariate continuous variable

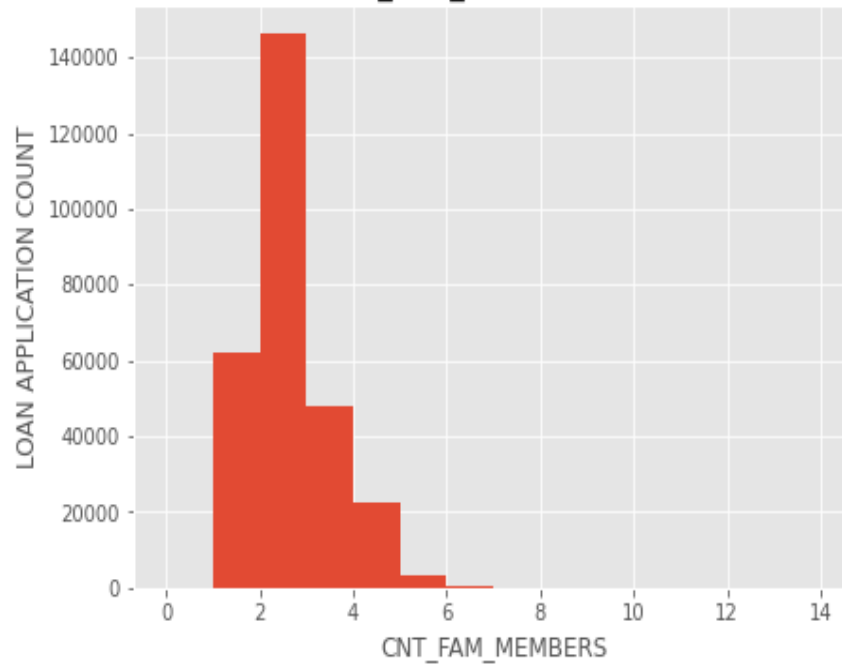


Univariate continuous variable

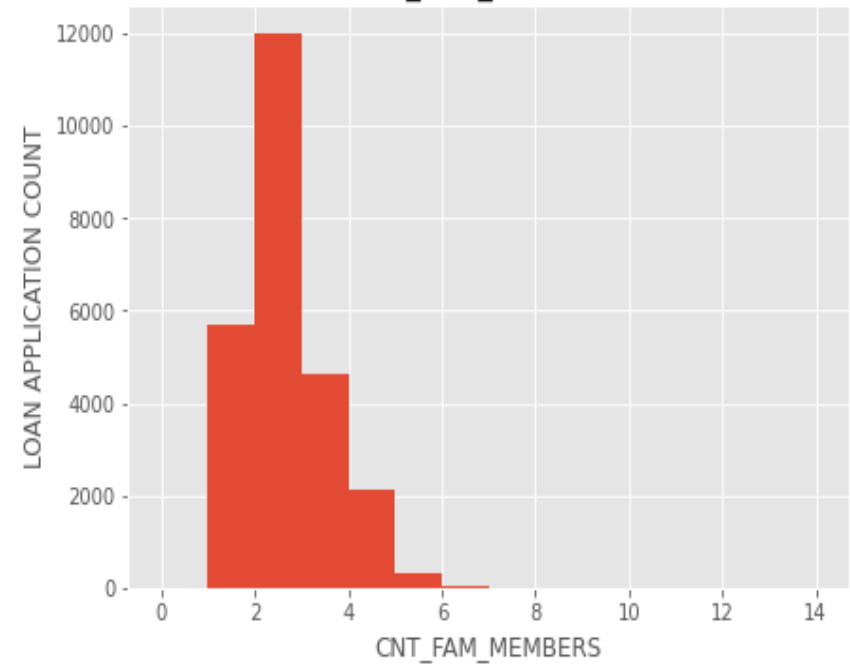


Univariate continuous variable

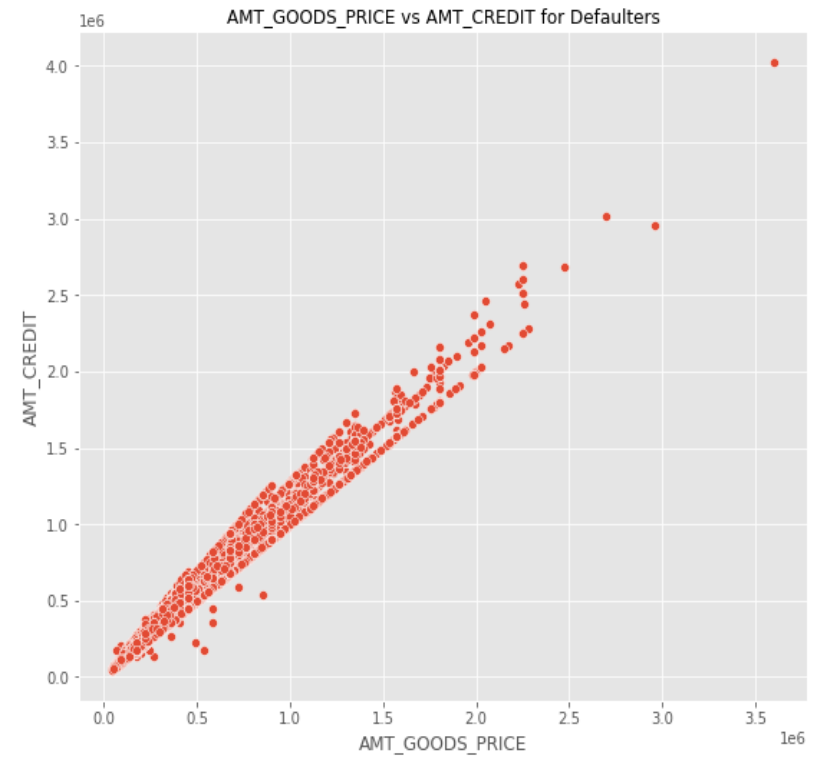
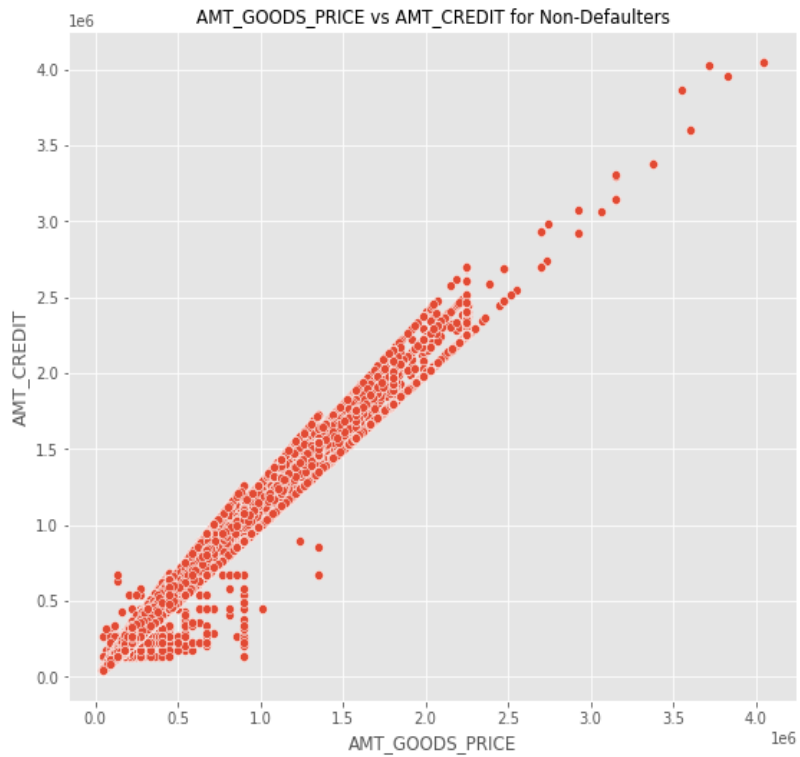
Distribution of CNT_FAM_MEMBERS for Non-Defaulters



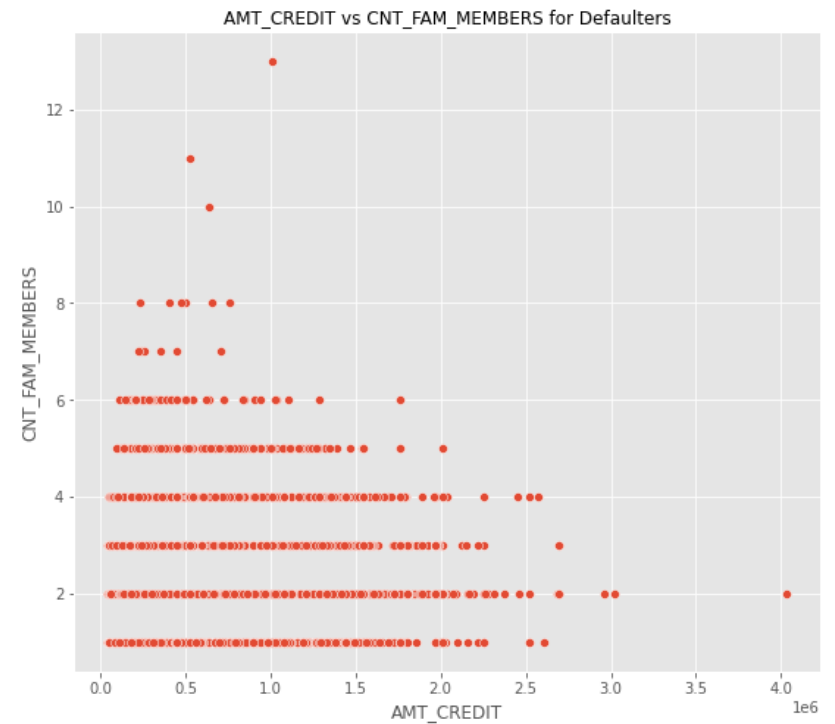
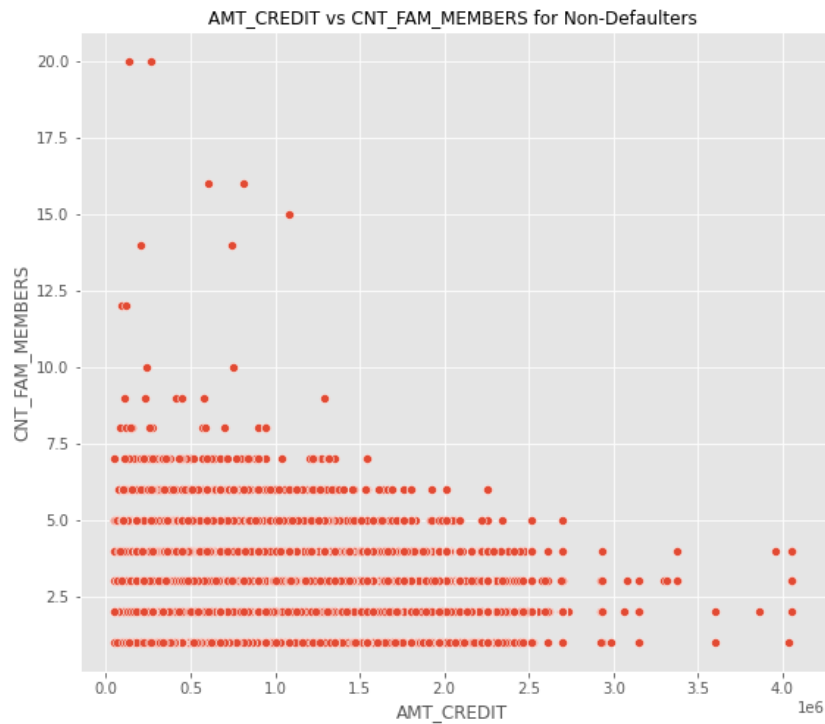
Distribution of CNT_FAM_MEMBERS for Defaulters



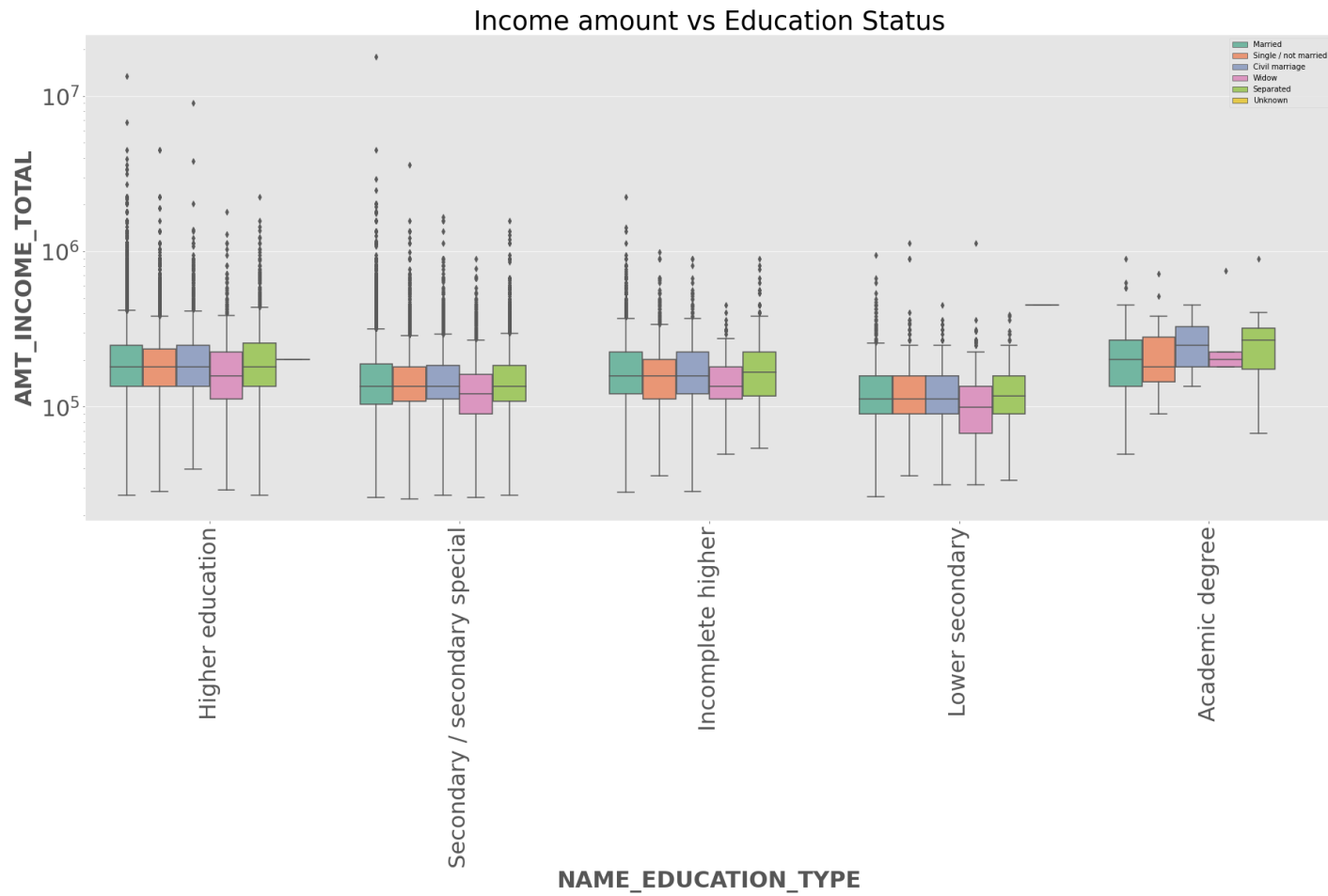
Bivariate Analysis of numerical variables



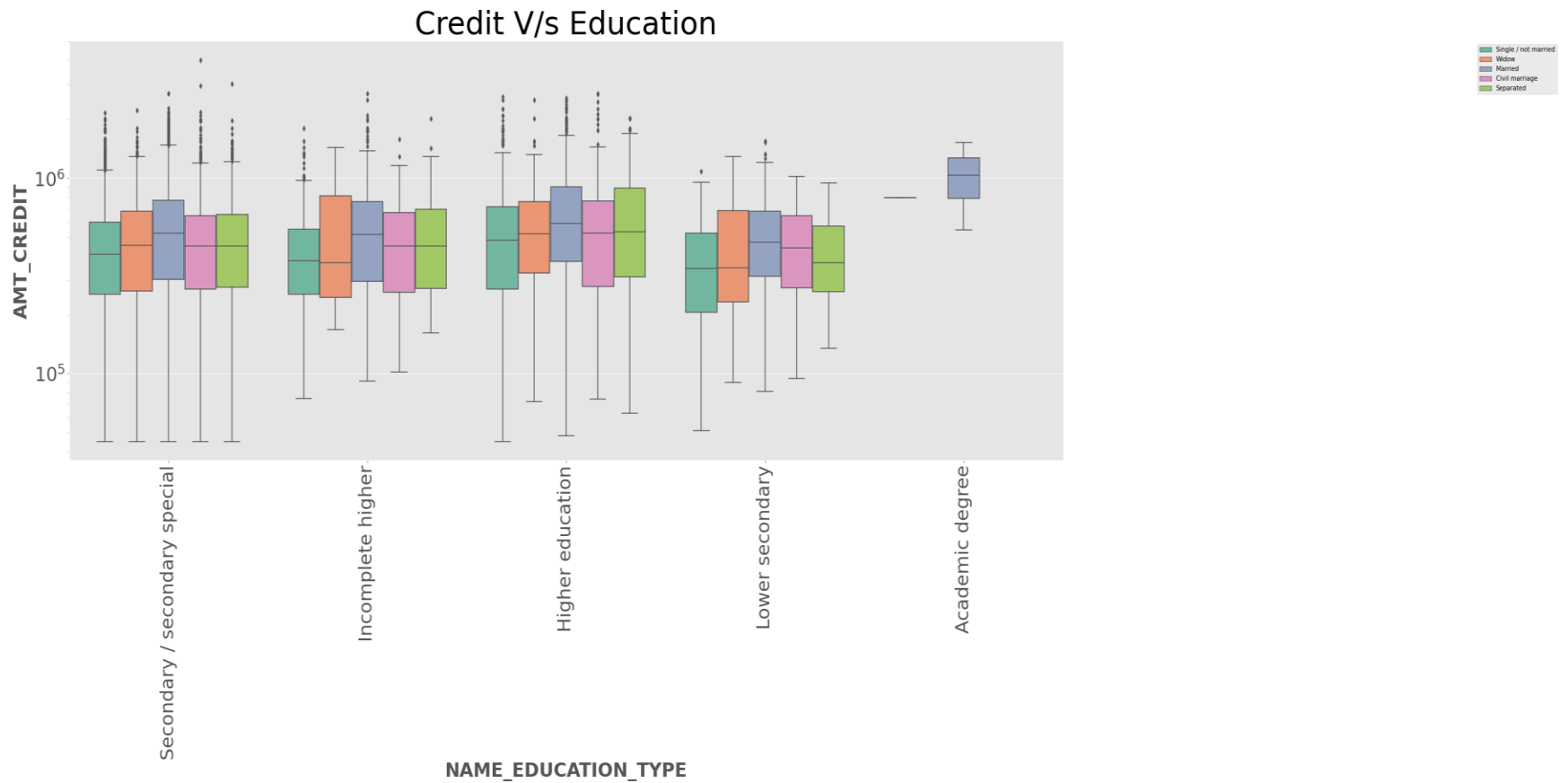
Bivariate Analysis of numerical variables



Bivariate analysis For Target0

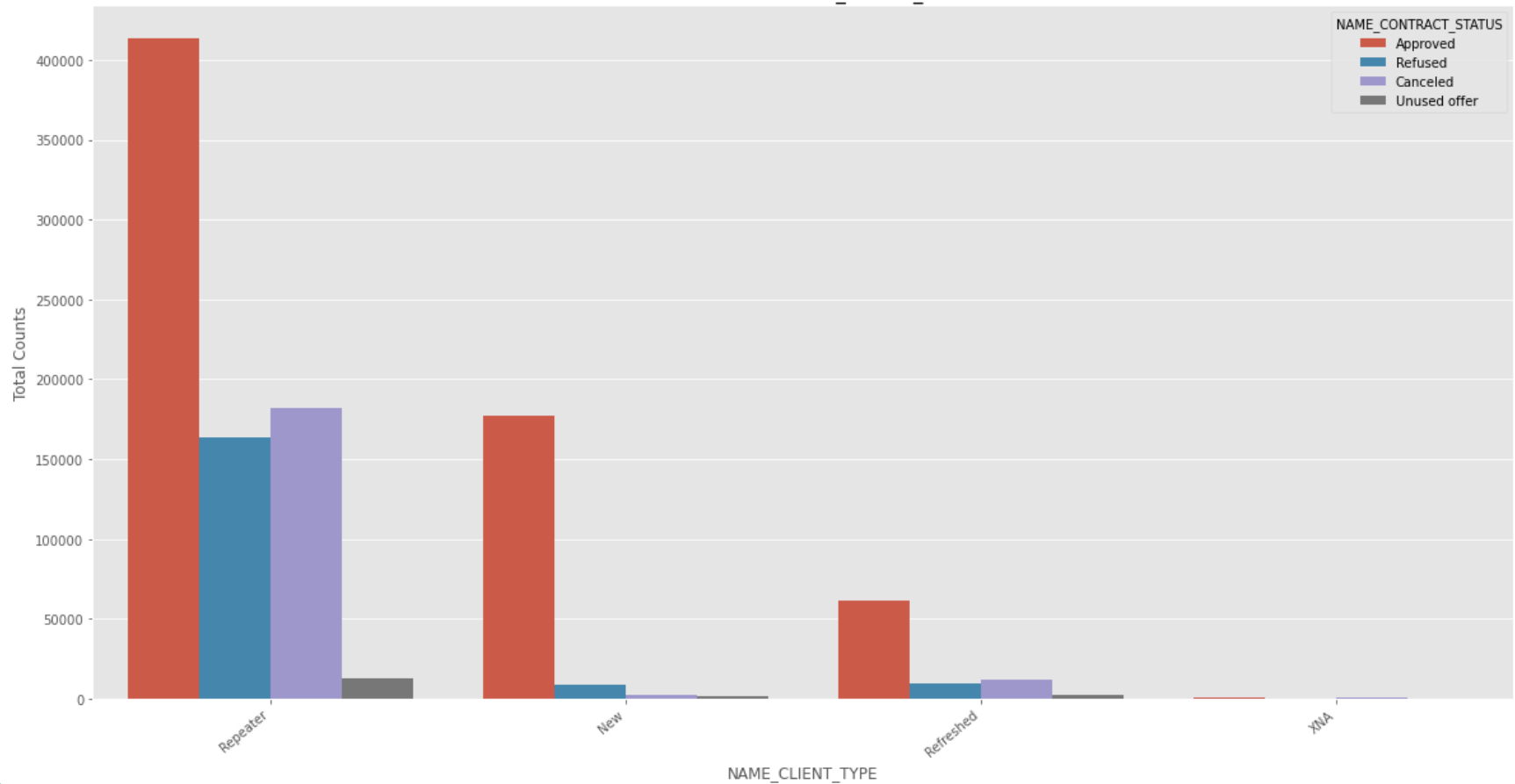


Bivariate analysis For Target1

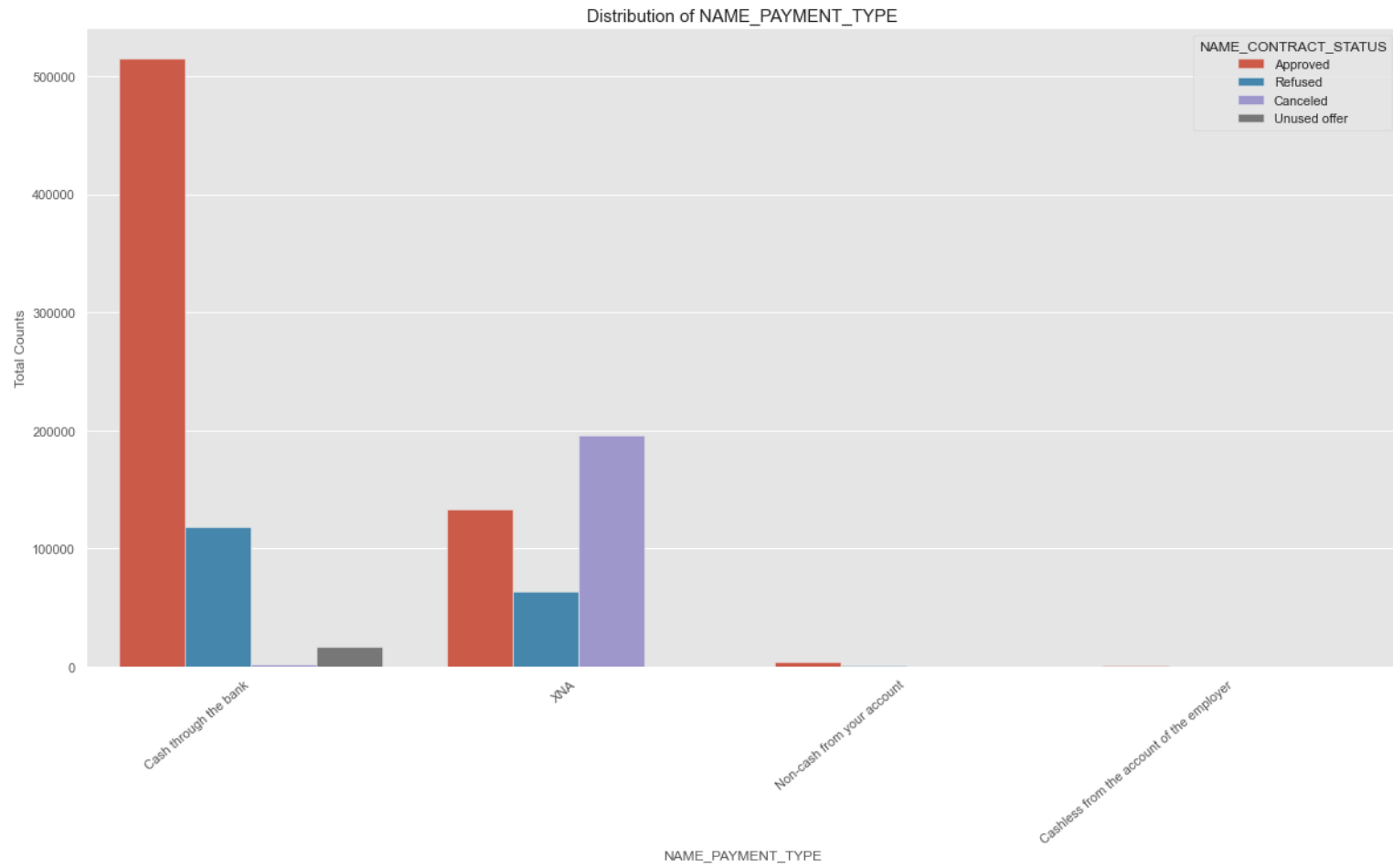


Previous application analysis: Univariate analysis on categorical variables

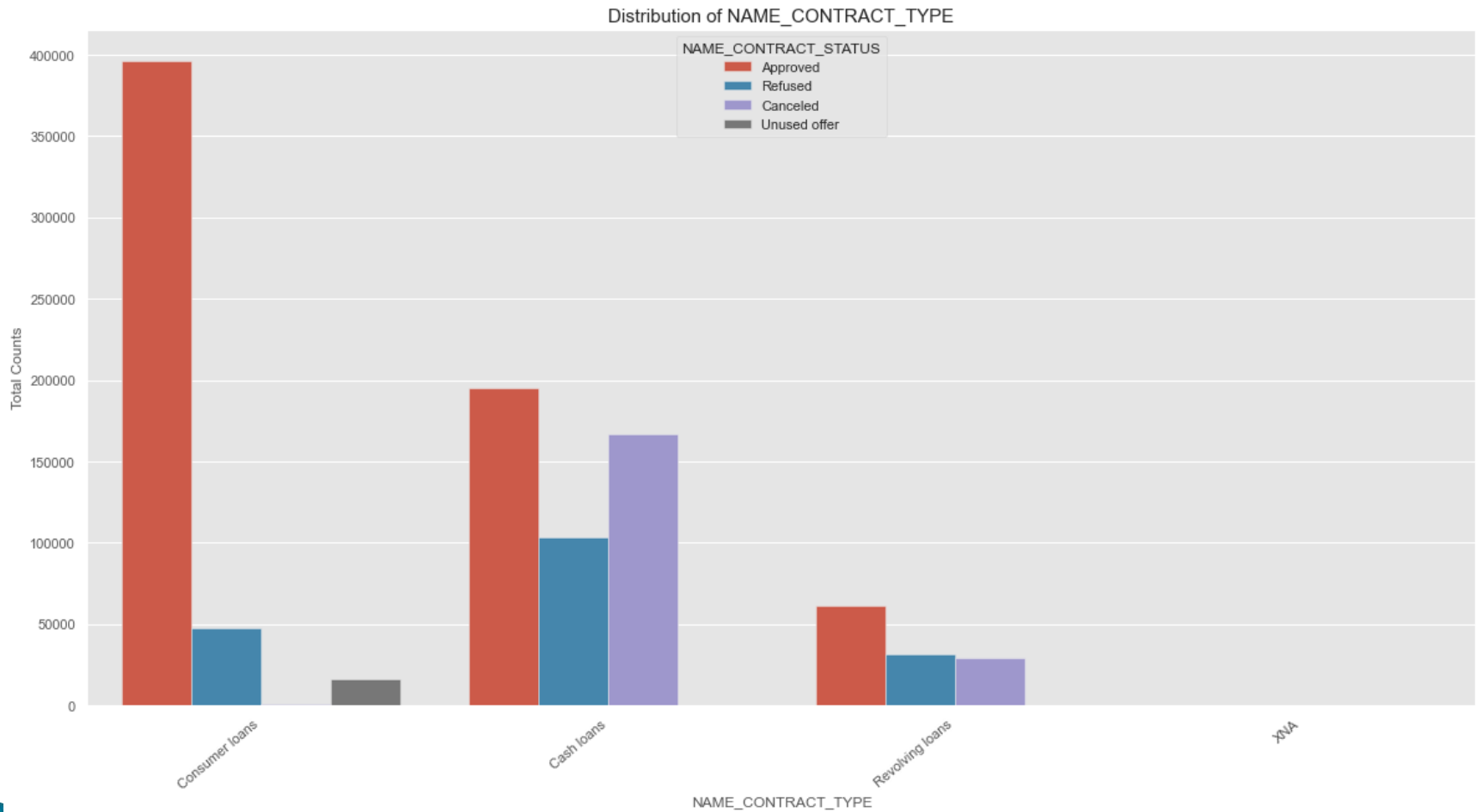
Distribution of NAME_CLIENT_TYPE



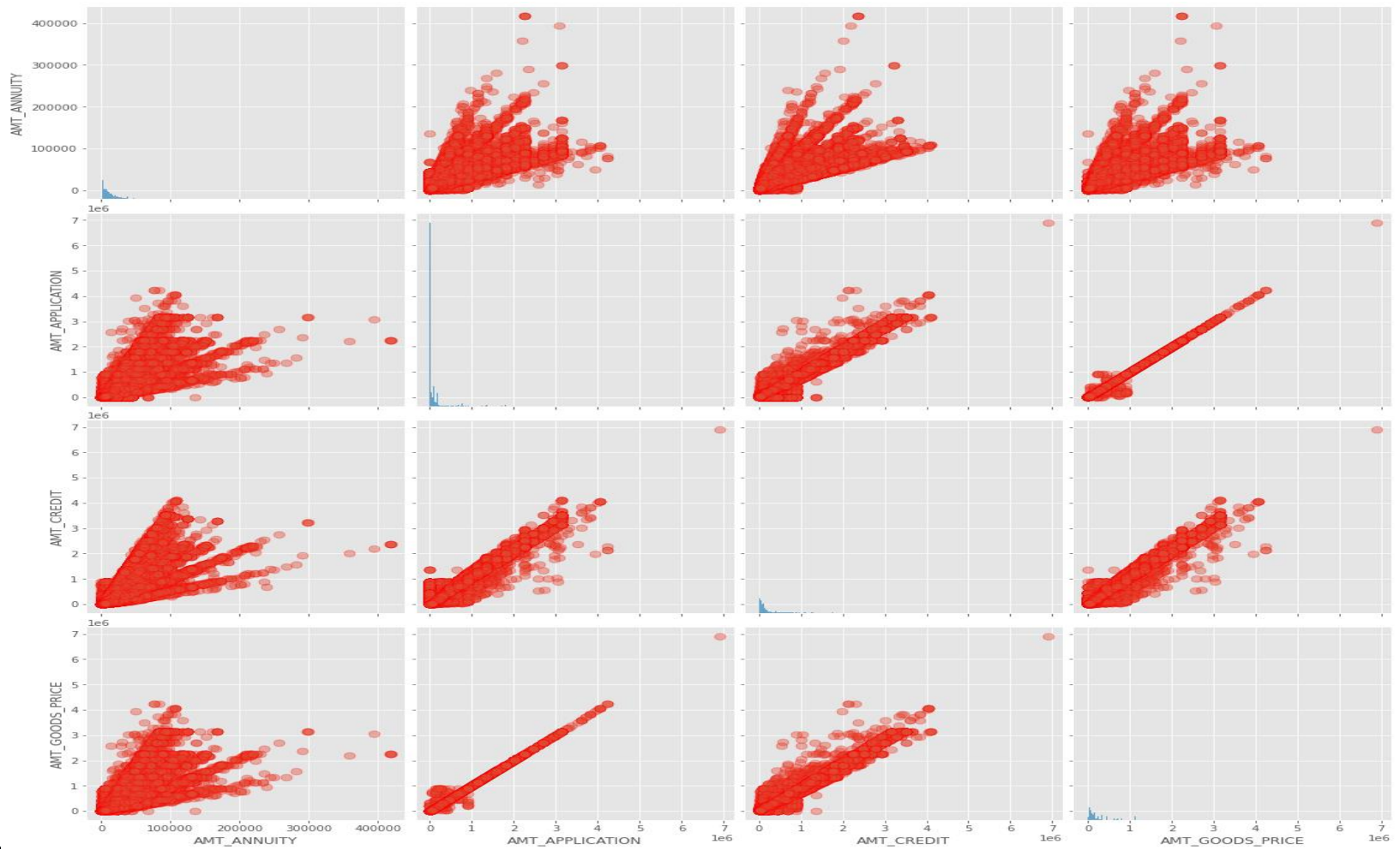
Univariate analysis on categorical variables



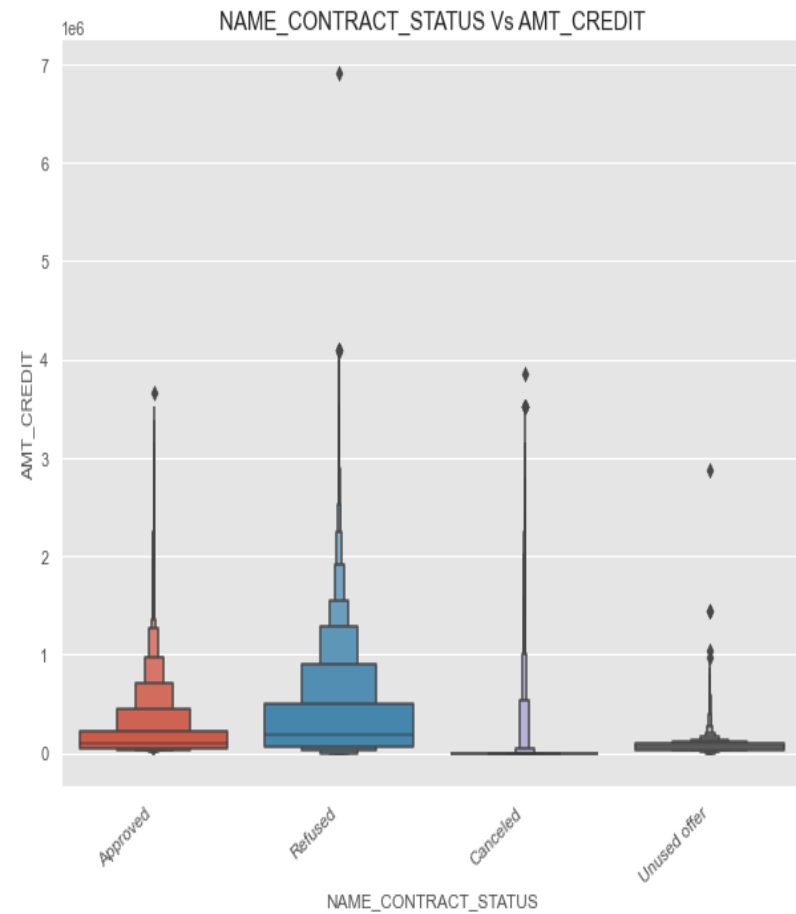
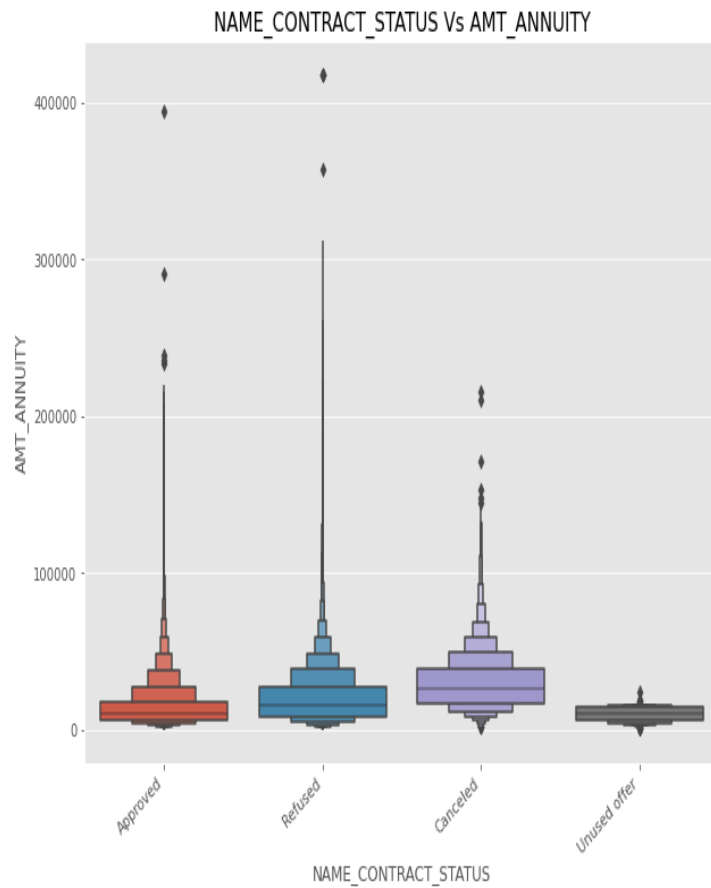
Univariate analysis on categorical variables



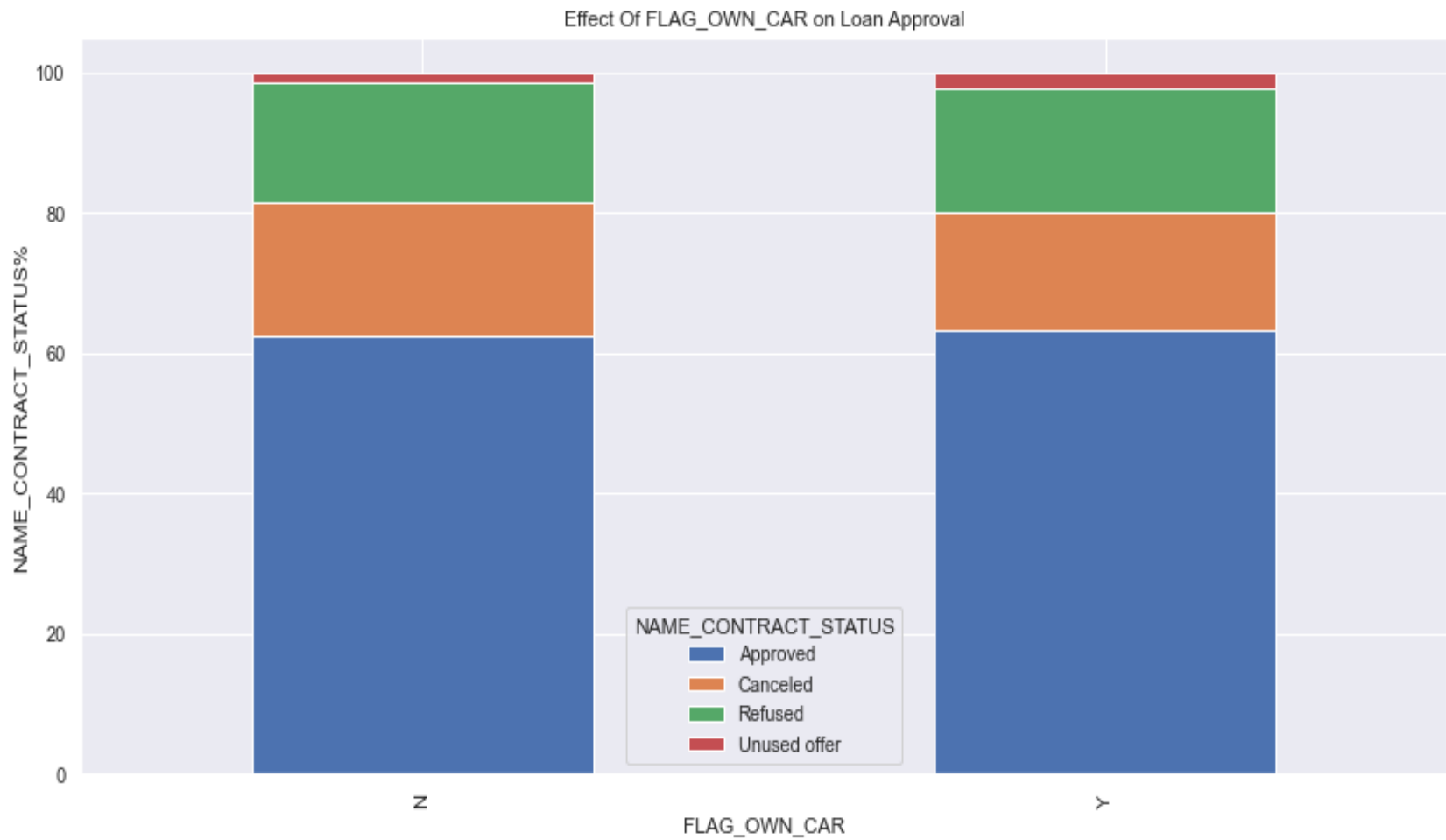
Bivariate analysis by using pair plot



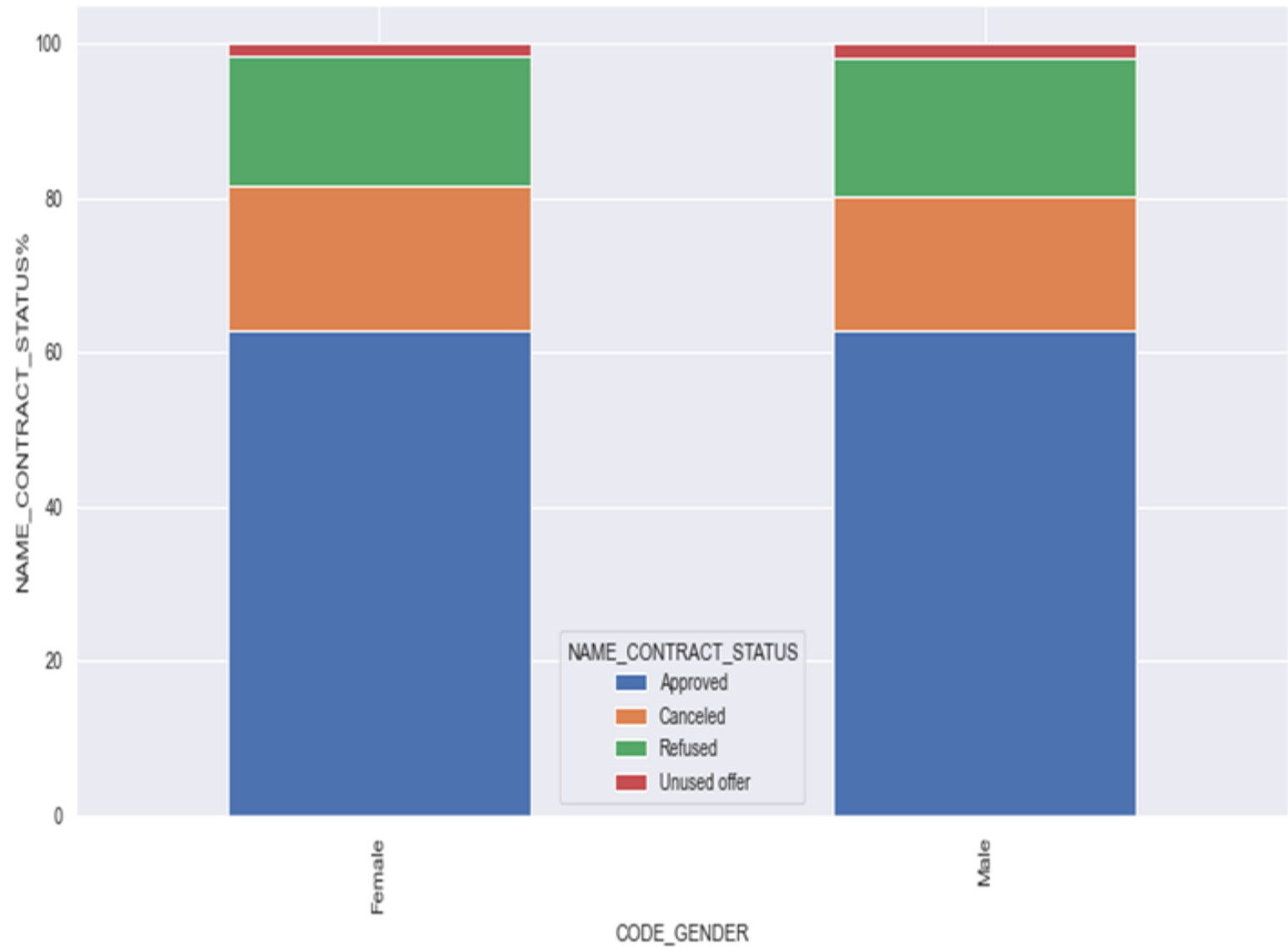
Bivariate analysis on categorical vs numeric columns



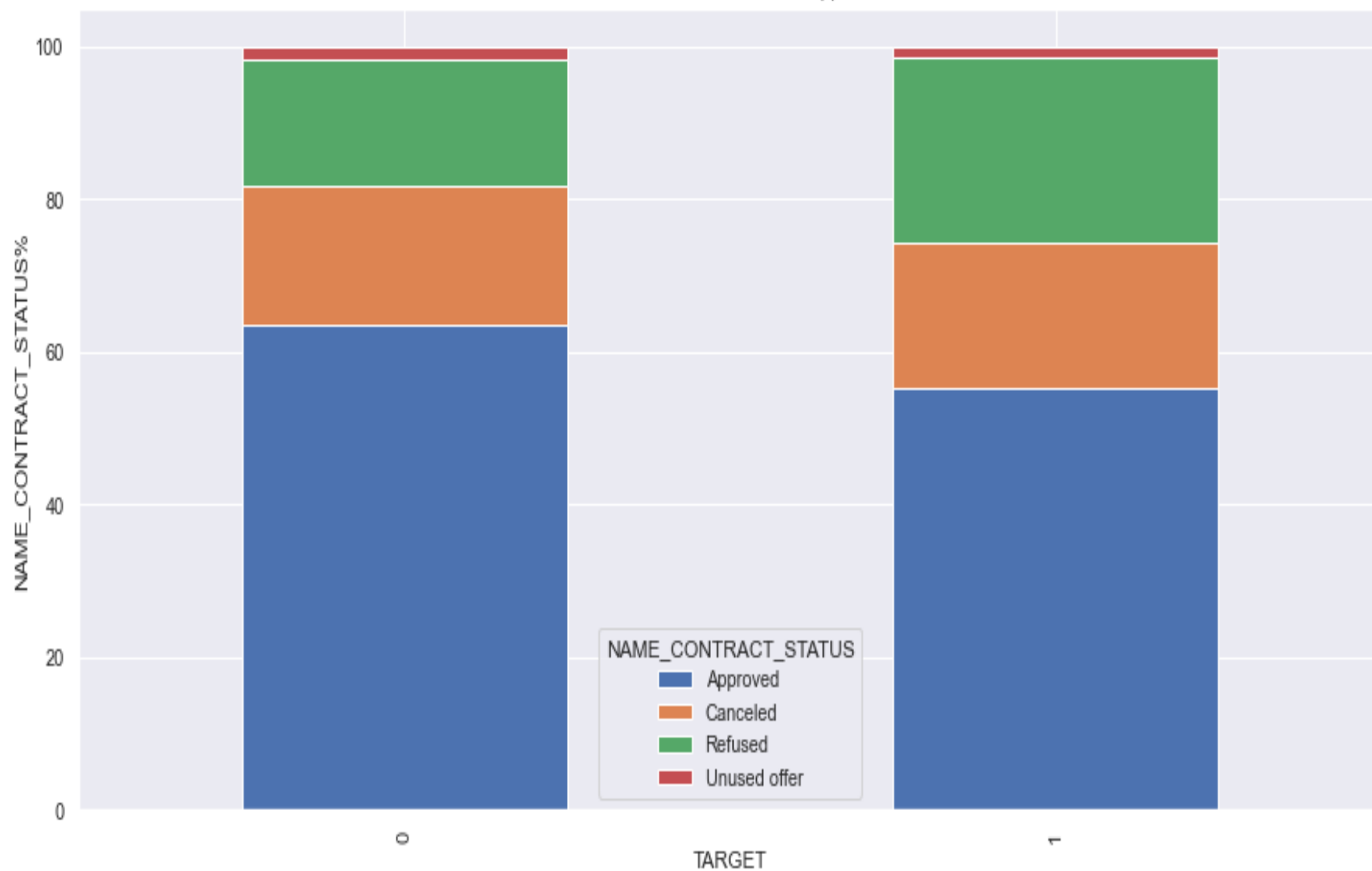
Merging the files and analyzing the data



Effect Of CODE_GENDER on Loan Approval



Effect Of TARGET on Loan Approval



Conclusion

- ▶ We can see that the people who were approved for a loan earlier, defaulted less often where as people who were refused a loan earlier have higher chances of defaulting.
 - ▶ We see that code gender doesn't have any effect on application approval or rejection. But we saw earlier that female have lesser chances of default compared to males.
 - ▶ We see that car ownership doesn't have any effect on application approval or rejection. But we saw earlier that the people who has a car has lesser chances of default.
- 