



Lending Club Case Study

Group Members:

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Introduction

Objective

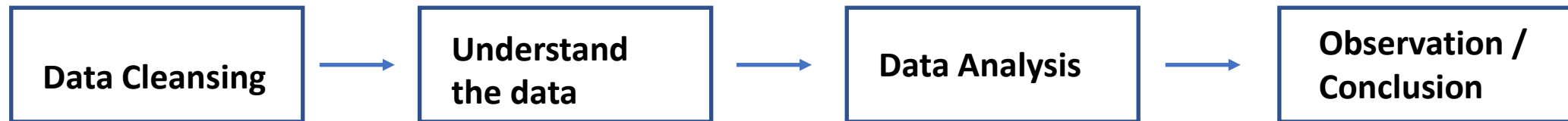
The goal of this case study is to explore how data can be effectively utilized to minimize the risk of financial loss while lending to customers. The main objective of this case study is to reduce credit loss by utilizing Exploratory Data Analysis (EDA) techniques to identify the key factors contributing to loan defaults.

Problem Context

- This case study focuses on the largest online loan marketplace known as the Lending Club. The Lending Club facilitates various types of loans, including personal loans, business loans, and financing for medical procedures. By providing borrowers with a fast online interface, the Lending Club enables easy access to loans at lower interest rates. However, similar to other lending companies, the primary source of financial loss for the Lending Club arises from lending to "risky" applicants, resulting in credit loss.
- Credit loss refers to the amount of money lost by the lender when borrowers either refuse to pay or abscond with the owed funds. Essentially, borrowers who default on their loans cause the most substantial losses for the lenders. In this case, the customers labeled as 'charged-off' are considered defaulters

Analysis steps

Following are the steps in Exploratory data analysis of Lending club data set



Data cleansing:

- Data Cleaning large null values for Columns and rows
- Removing unwanted columns
- Correcting Data Types and Deriving New Columns
- Outlier detection

Data Analysis:

- Univariate analysis
- Bivariate Analysis

Summary of Data Analysis results

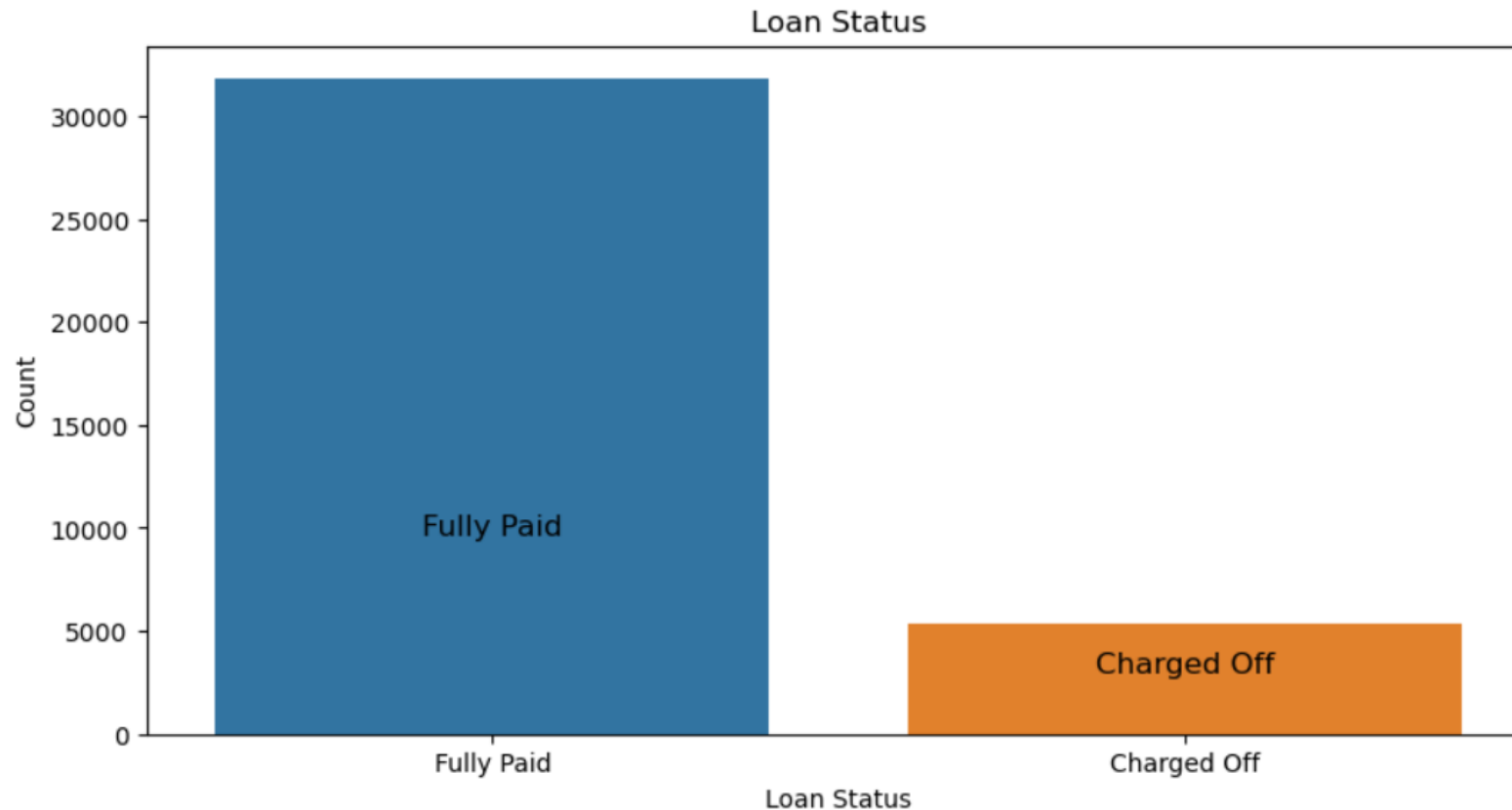
Following are the conclusion from the analysis:

- The majority of loans taken have a term of 36 months, while a smaller proportion have a term of 60 months
- The distribution of interest rates is concentrated around the ranges of 5-10 and 10-15, with a decrease in frequency observed near the value of 10
- Majority of the borrowers are from the large urban cities like California, New York, Texas, Florida etc
- About 50% of the borrowers are verified by the company or have source verified.
- A large percentage of loans are taken for debt consolidation followed by credit card
- The 60 month term has higher chance of defaulting than 36 month term whereas the 36 month term has higher chance of fully paid loan
- The Employees with 10+ years of experience are less likely to default and have higher chance of fully paying the loan.

Data Analysis Details

Data Analysis

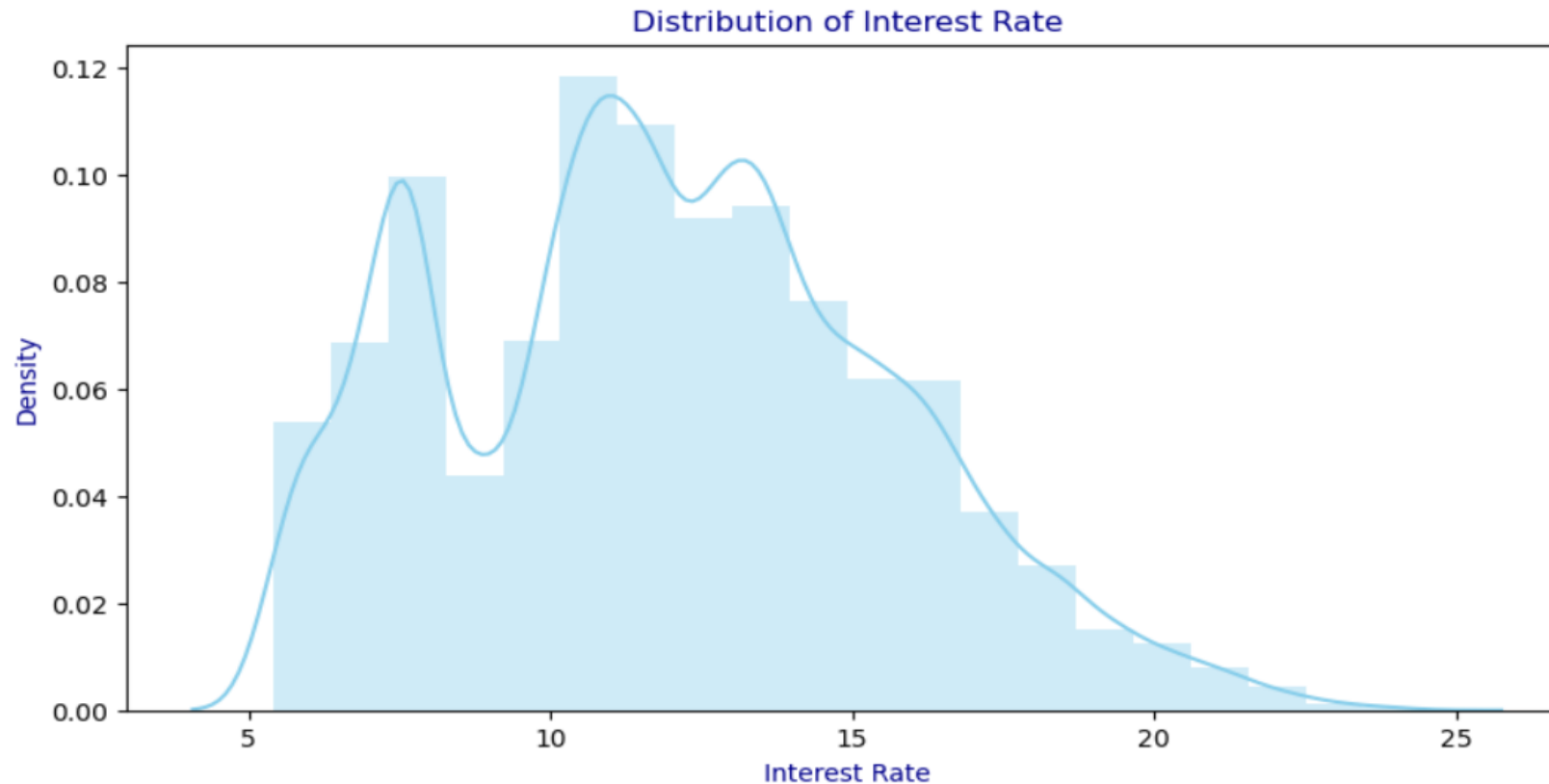
Loan status



Observation: The majority of loans taken have a term of 36 months, while a smaller proportion have a term of 60 months

Data Analysis

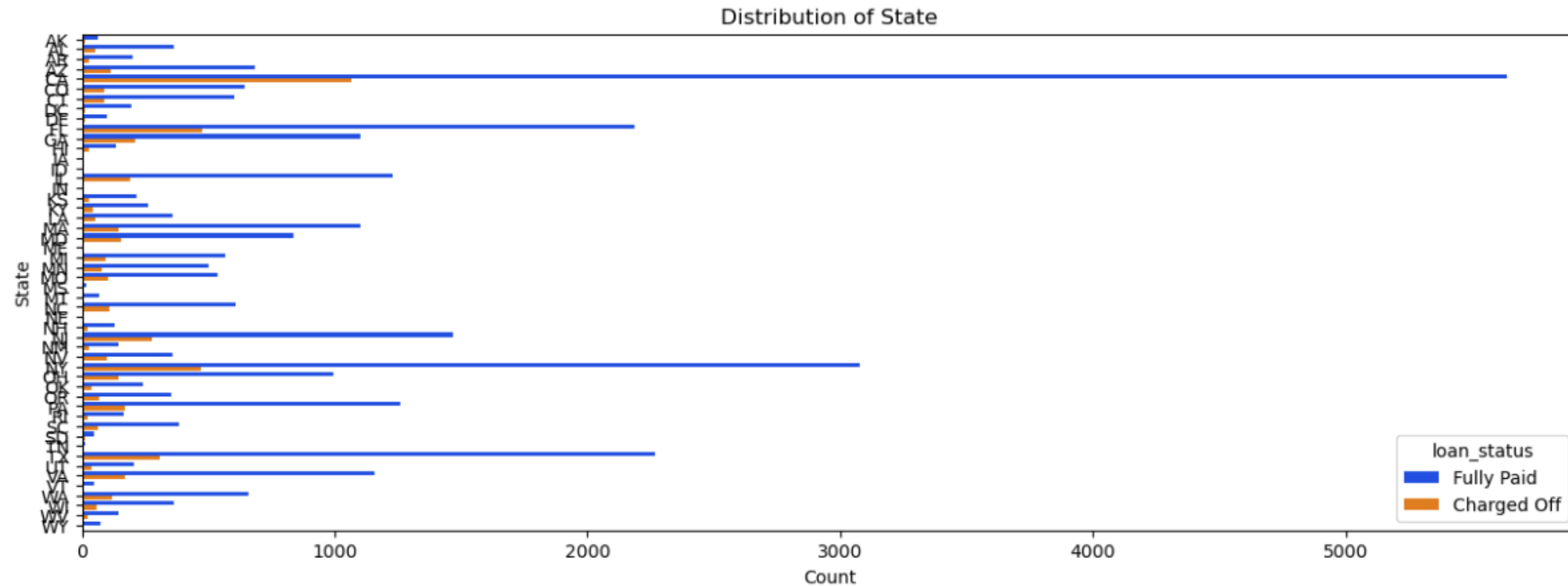
Distribution of interest rates



Observation: The distribution of interest rates is concentrated around the ranges of 5-10 and 10-15, with a decrease in frequency observed near the value of 10

Data Analysis

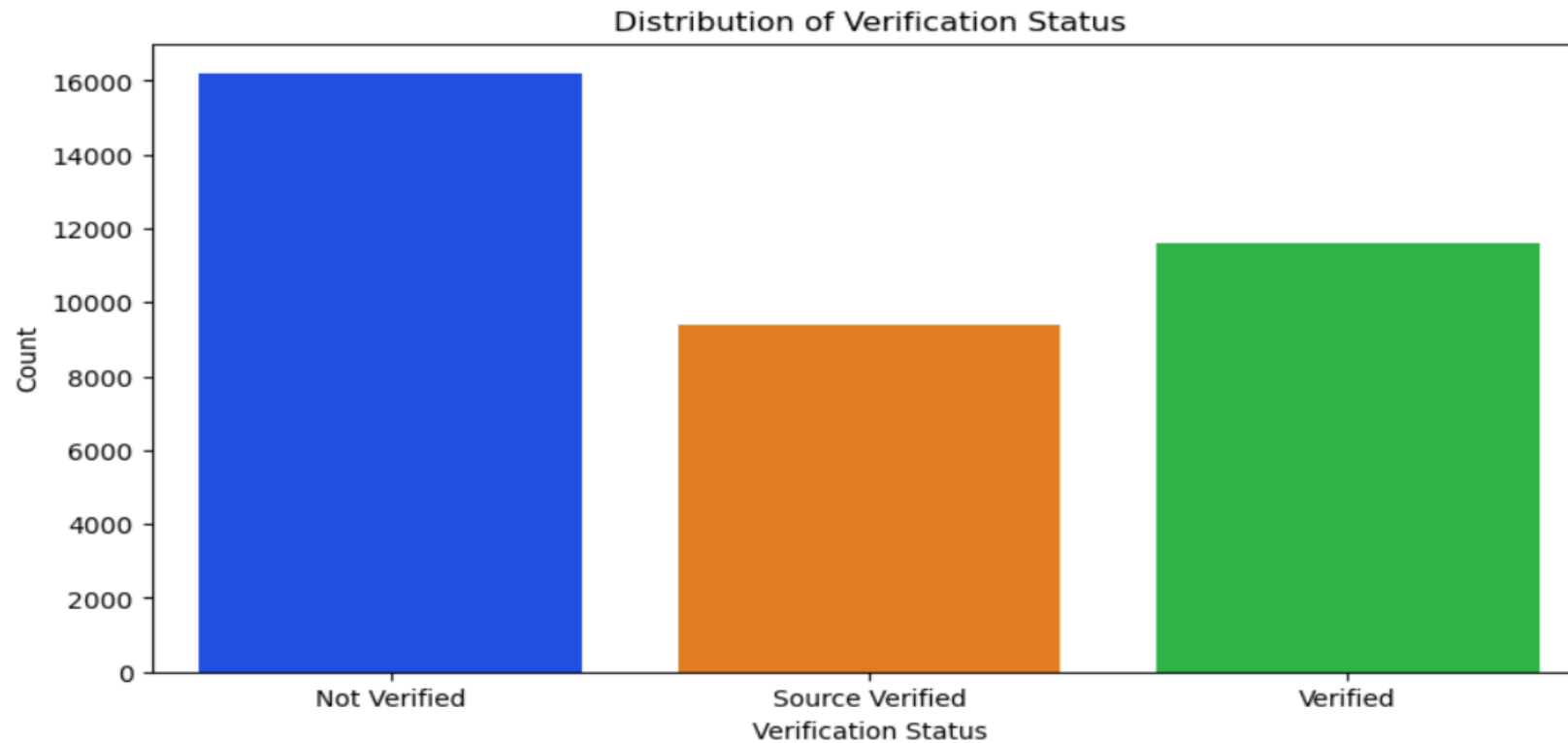
State wise distribution



Observation: Majority of the borrowers are from the large urban cities like California, New York, Texas, Florida etc

Data Analysis

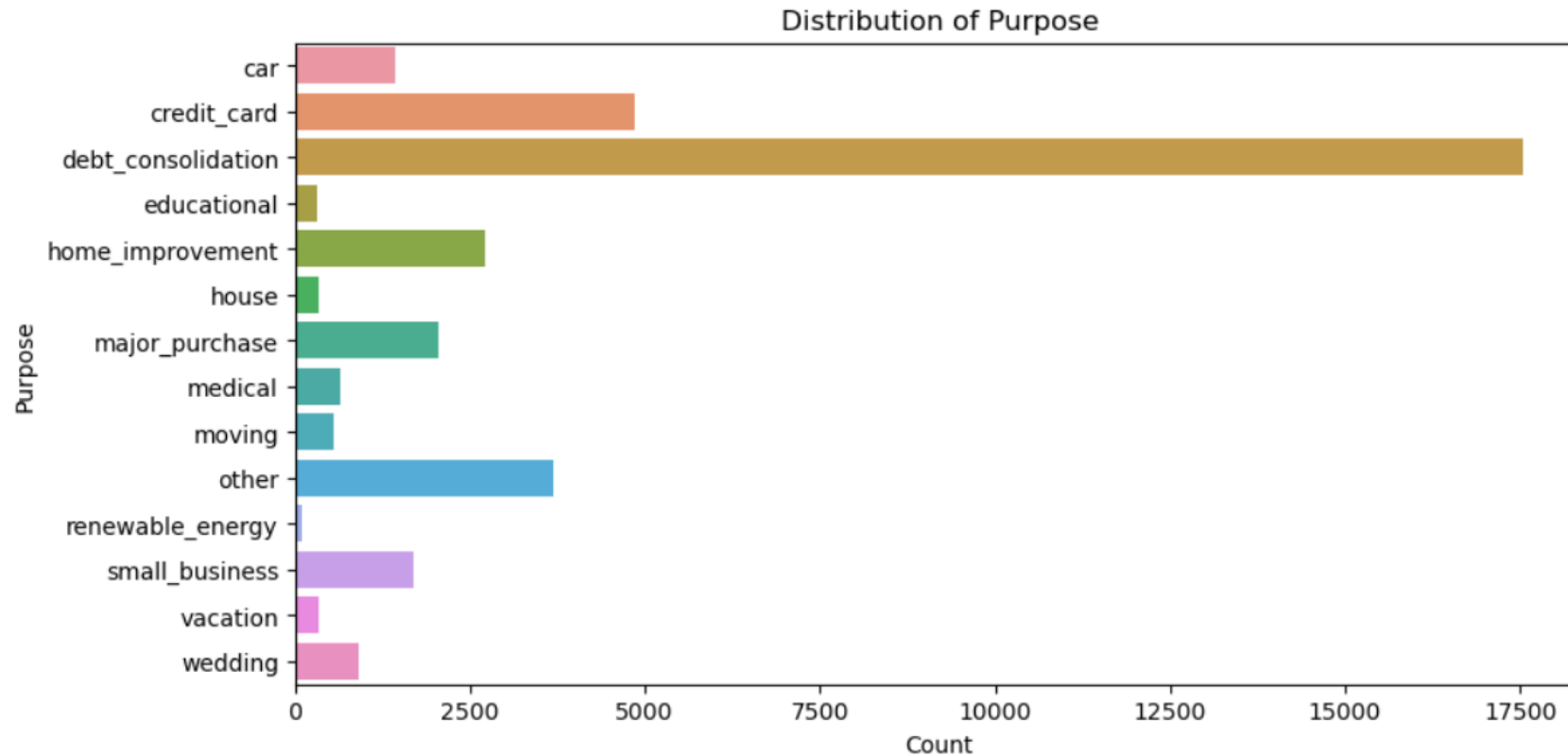
Distribution of verification



Observation: About 50% of the borrowers are verified by the company or have source verified.

Data Analysis

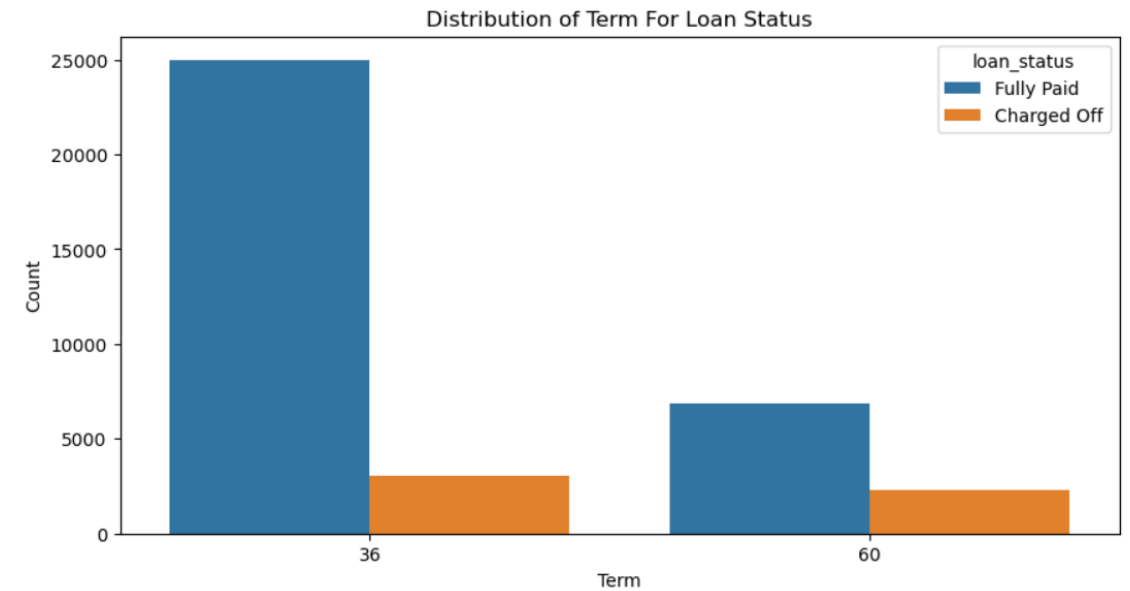
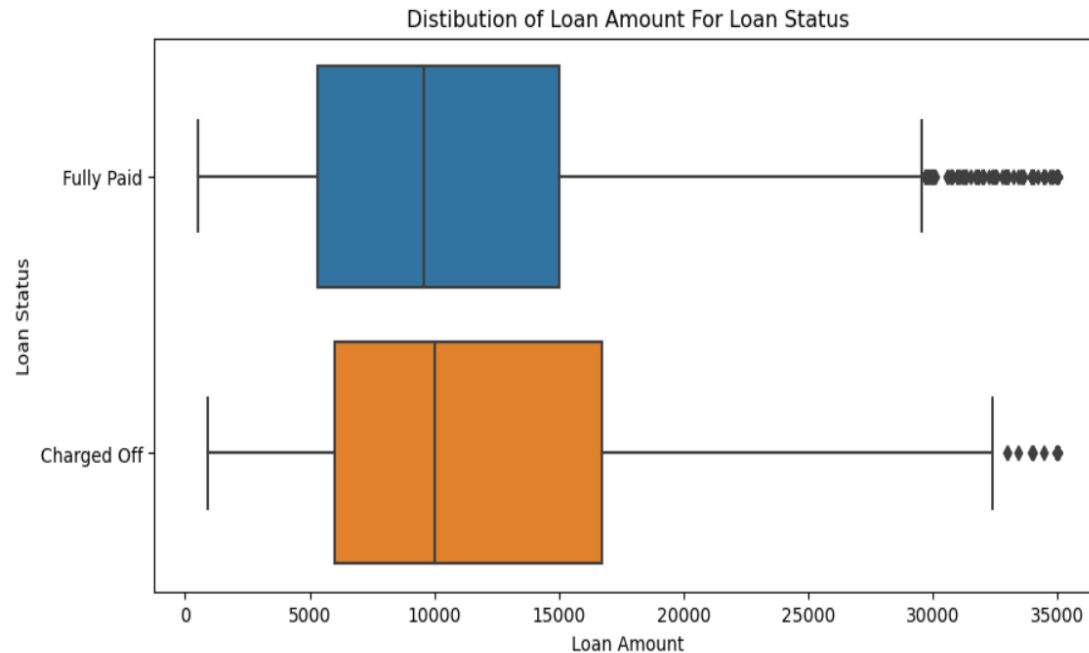
Distribution of purpose



Observation: A large percentage of loans are taken for debt consolidation followed by credit card

Data Analysis

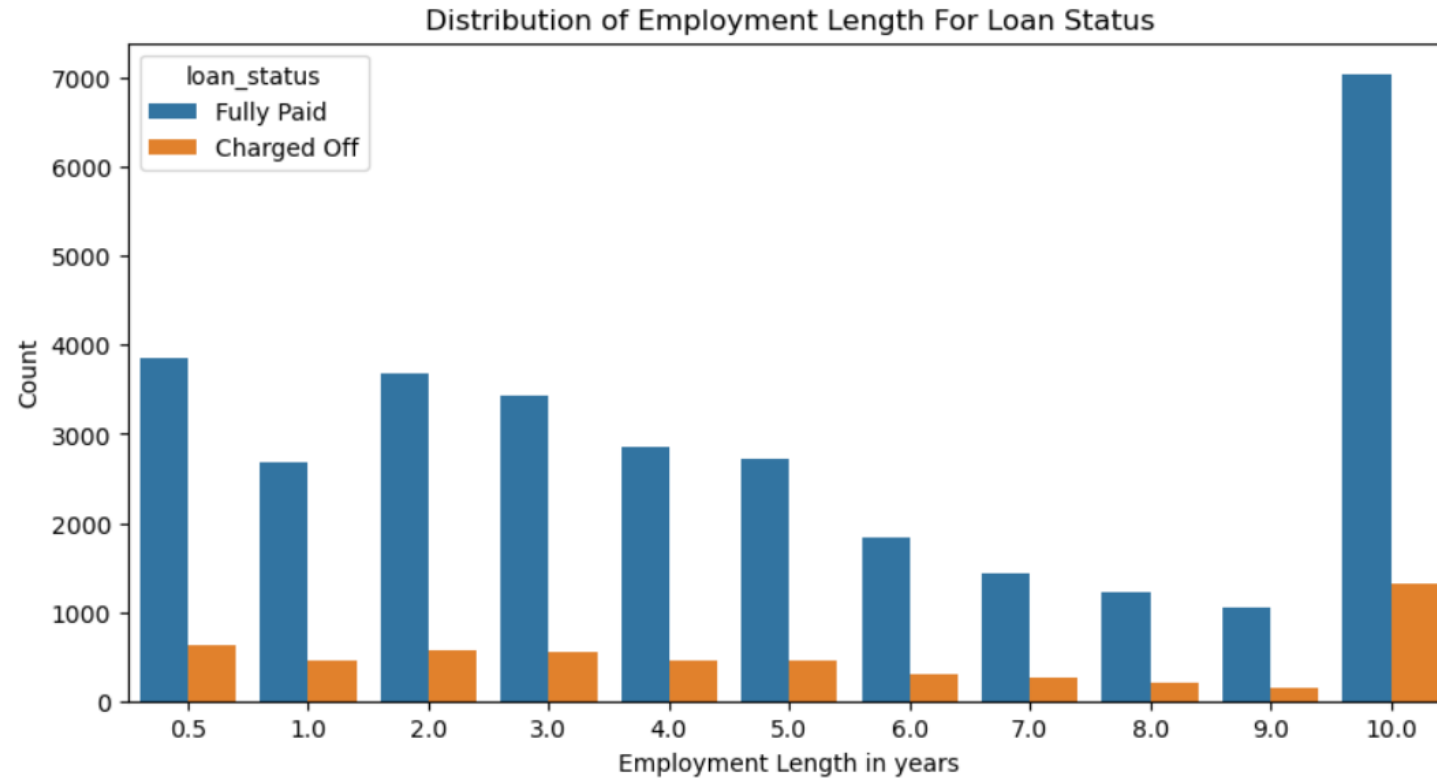
Distribution of loan status



Observation: The 60 month term has higher chance of defaulting than 36 month term whereas the 36 month term has higher chance of fully paid loan

Data Analysis

Distribution of employment length for loan status



Observation: The Employees with 10+ years of experience are less likely to default and have higher chance of fully paying the loan.

Thank You

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