



LENDING CLUB CASE STUDY

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BUSINESS UNDERSTANDING

- Lending club is the largest online loan marketplace, facilitating personal loans, business loans, and financing of medical procedures.
- Borrowers can easily access lower interest rate loans through a fast online interface.
- The objective of analysis is to use the information about past loan applicants and find whether they 'defaulted' or not.
- Make a justifiable decision on various kinds of loan applications recieved

PROBLEM SOLVING METHODOLOGY

Data Cleaning

Removing the null valued columns, unnecessary variables and checking the null value percentage and removing the respective rows.

Data Understanding

Working with the Data Dictionary and getting knowledge of all the columns and their domain specific uses

Univariate Analysis

Analyzing each column, plotting the distributions of each column.

Segmented Univariate Analysis

Analyzing the continuous data columns with respect to the categorical column

Bivariate Analysis

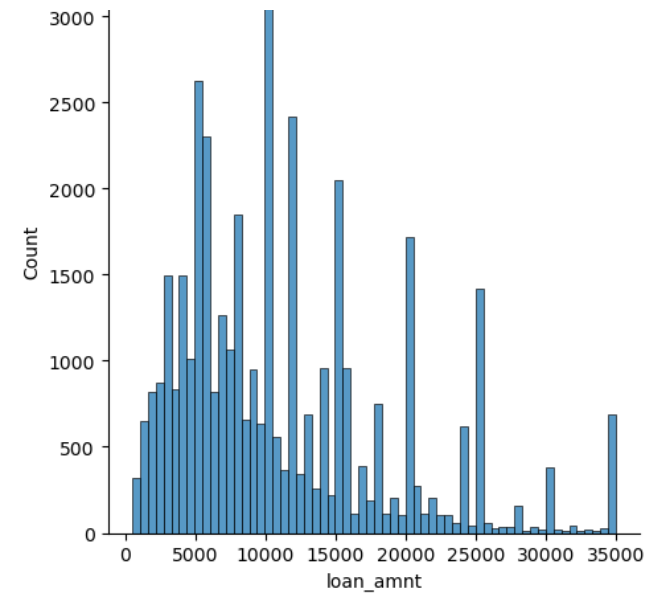
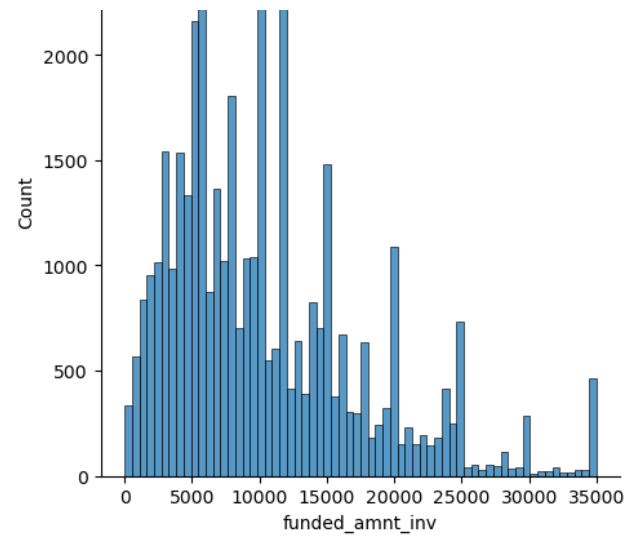
Analyzing the two-variable behavior like term and loan status with respect to loan amount.

Recommendations

Analyzing all plots and recommendations for reducing the loss of business by detecting columns best which contribute to loan defaulters.

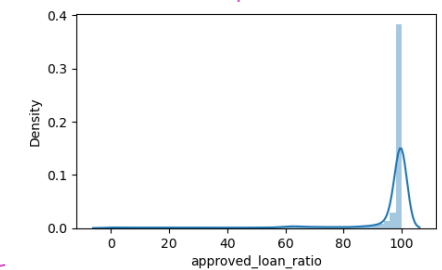
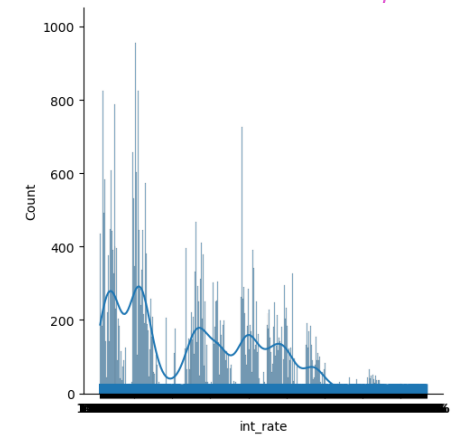
DATA ANALYSIS – LOAN AMOUNTS

- Loan Amount
- Funded Amount Inv



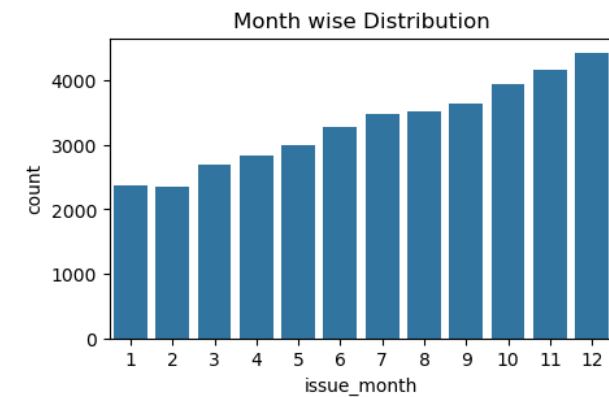
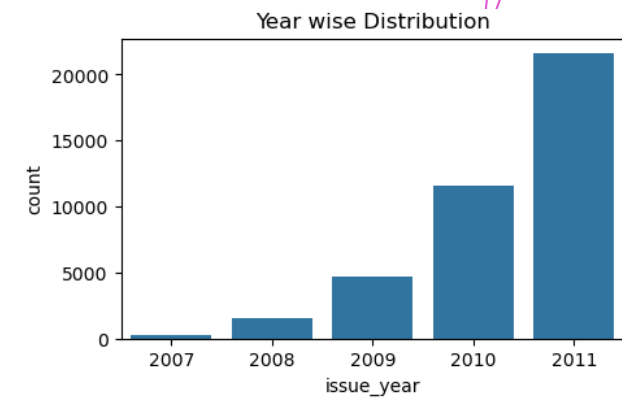
DATA ANALYSIS APPROVED LOANS & INTEREST RATES

- Approved Loan Ratio
- Distribution Plot for Interest Rate

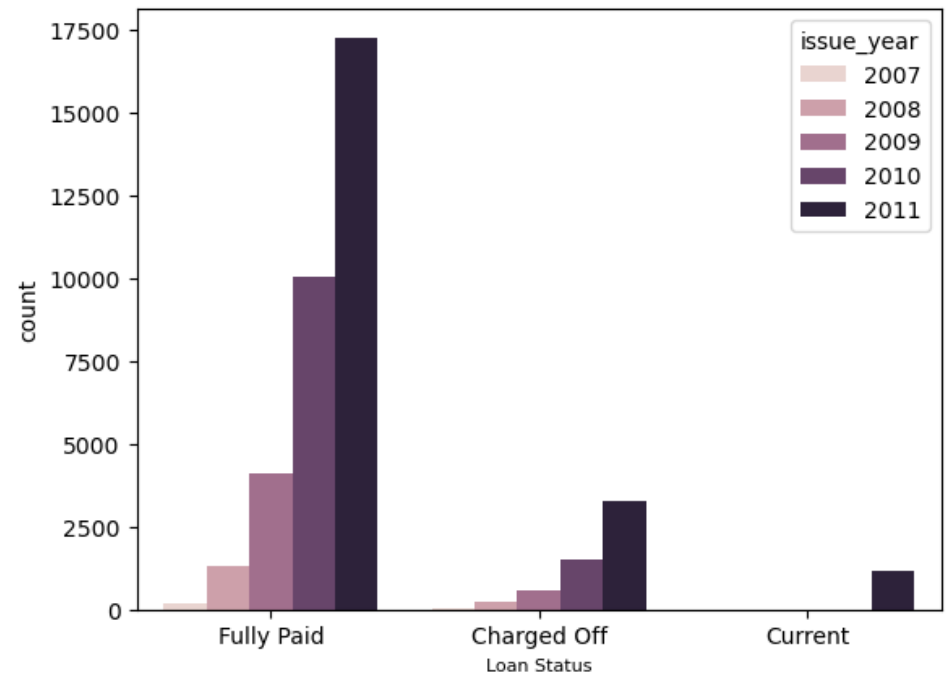


DATA ANALYSIS – LOANS ISSUED

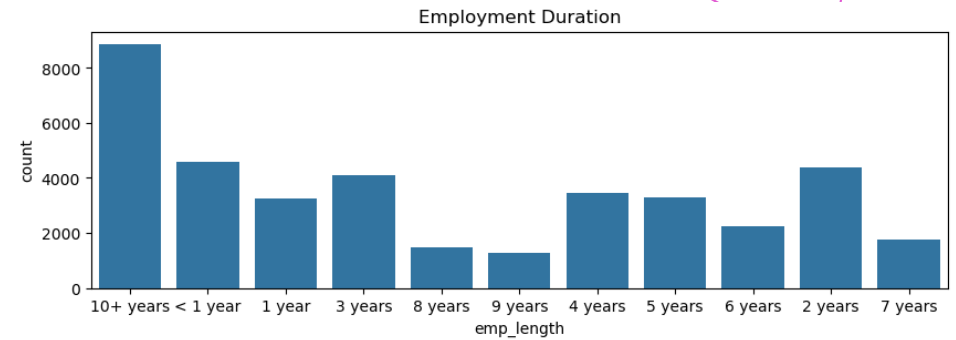
- Year wise Loans Issued
- Month wise Loans Issues



DATA ANALYSIS – YEAR BY YEAR LOAN STATUS



DATA ANALYSIS - EMPLOYMENT DURATION

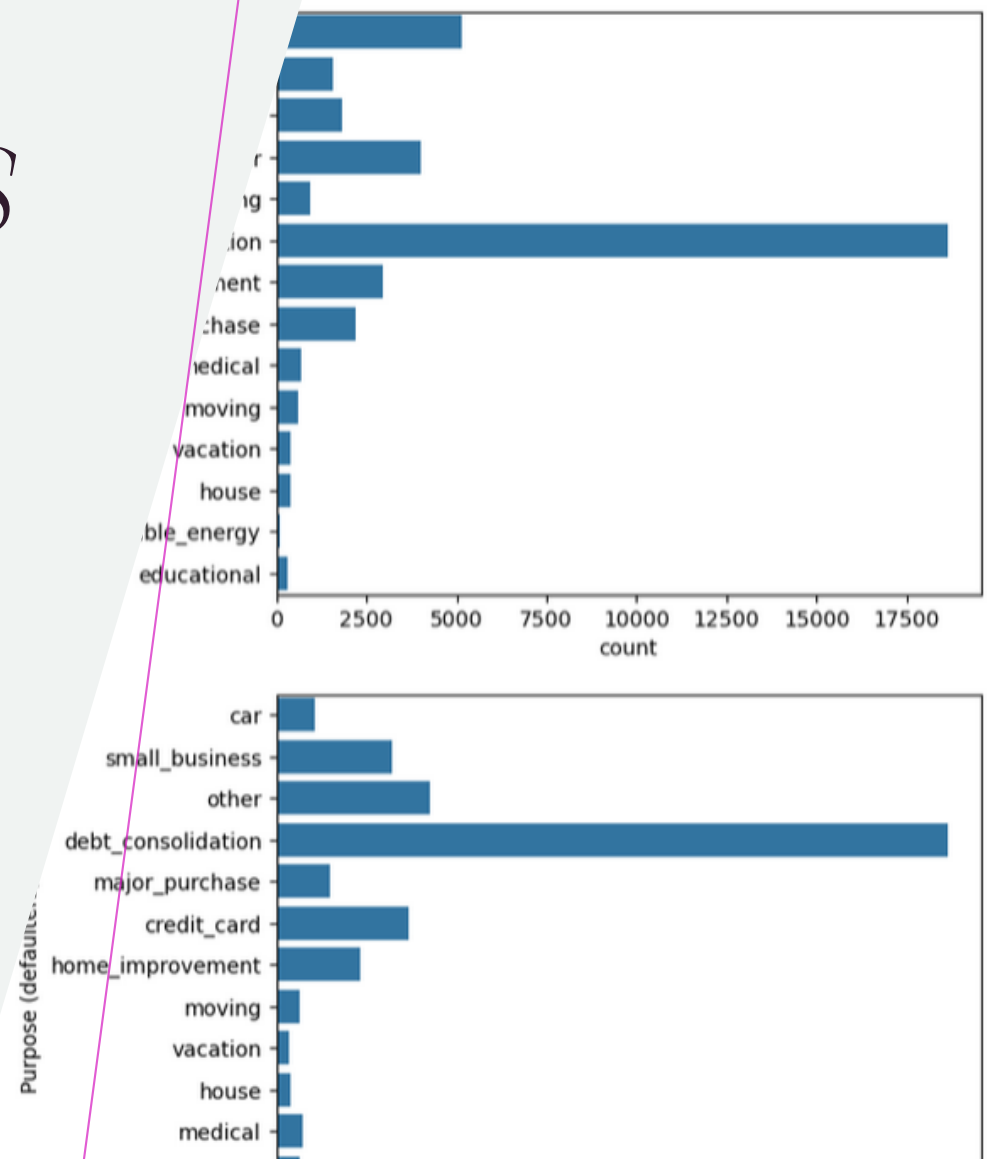


DATA ANALYSIS

– DEFAULTERS

PURPOSE

TRENDS



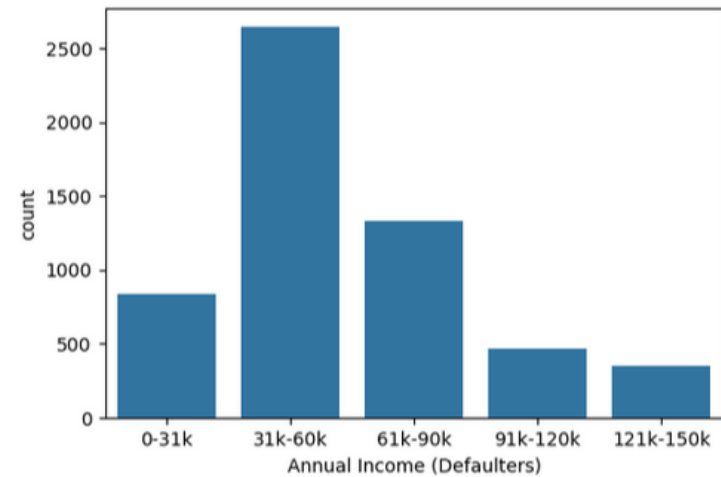
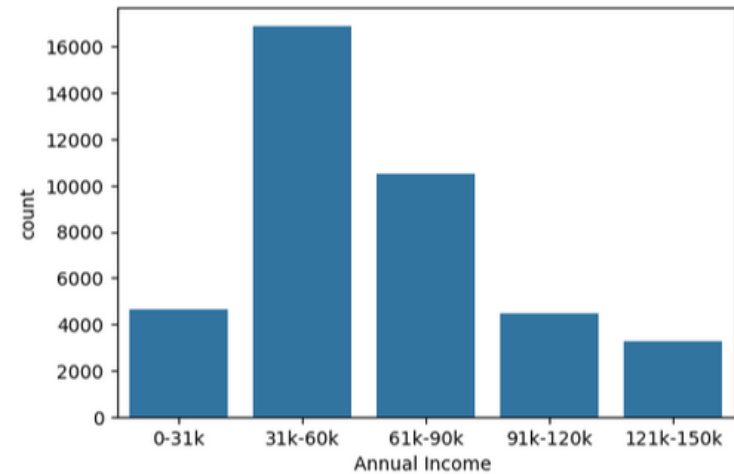
DATA ANALYSIS

– ANNUAL

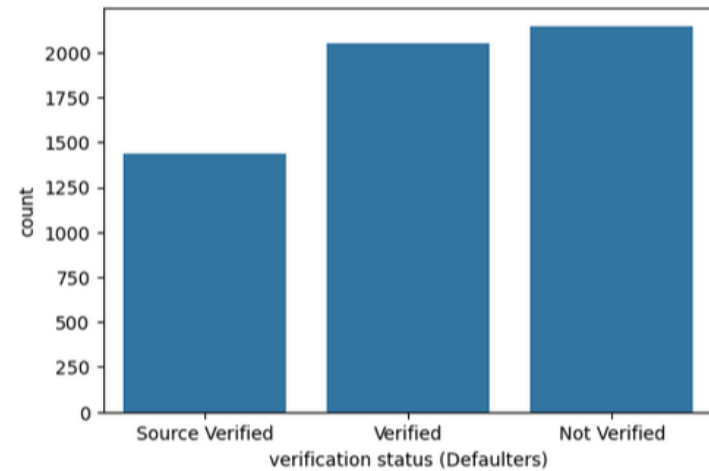
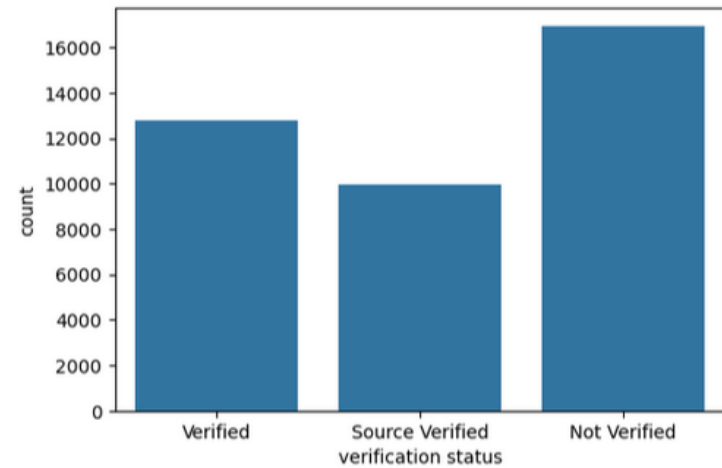
INCOME FOR

DEFAULTERS

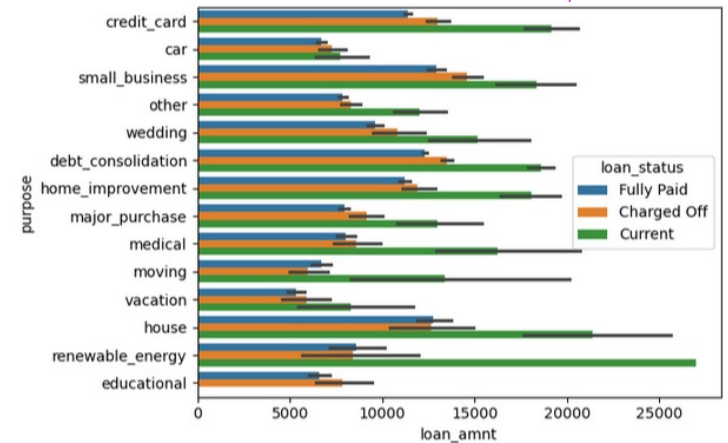
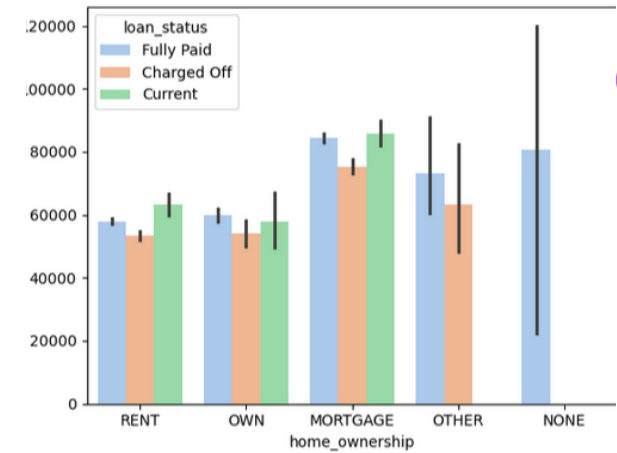
TRENDS



DATA ANALYSIS VERIFICATION STATUS FOR LOANS VS DEFAULTERS



DATA ANALYSIS - LOAN TYPE & HOME OWNERSHIP VS AMOUNT



CONCLUSION – CASE STUDY

- Loans with 60 months tenure tend to default more and thus bring losses to the company. This should be reduced in volume.
- Grades are good metric for detecting defaulters. More detailed analysis of information from borrowers before issuing loans to Low grade (G to A). These are risky for the company
- Lending on applications from certain states like CA, FL and NY as these are tending to losses to the company. Small business loans are defaulted more. Lending club should stop/reduce issuing the loans to them.
- Loan amount borrowed is not in proportion with the annual income of the applicant, these applicants will tend to be defaulter in future for long term loans
- Number of public derogatory records are also indicator of risk and should be dealt in the appropriate mitigation.