LENDING CLUB CASE STUDY

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Objectives

- Exploratory Data Analysis
- Identification of Risk and Opportunities based on various factors.
- If the applicant is likely to repay the loan, then not approving the loan results in a loss of business to the company
- If the applicant is not likely to repay the loan, i.e. he/she is likely to default, then approving the loan may lead to a financial loss for the company

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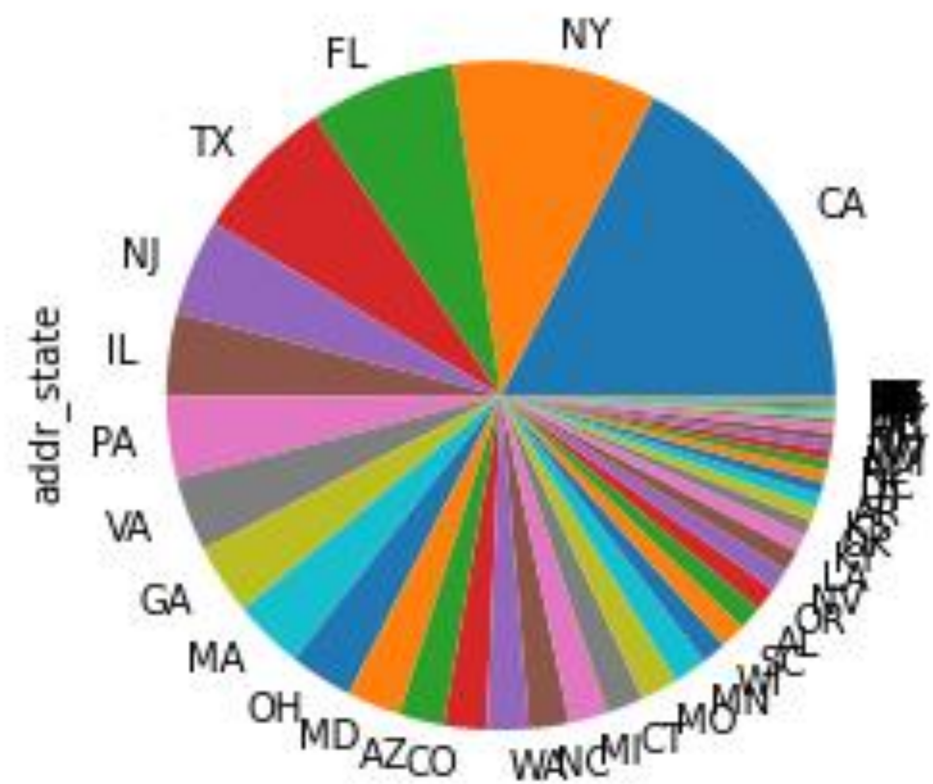
Univariate Analysis – Demographic Spread (Business Potential)

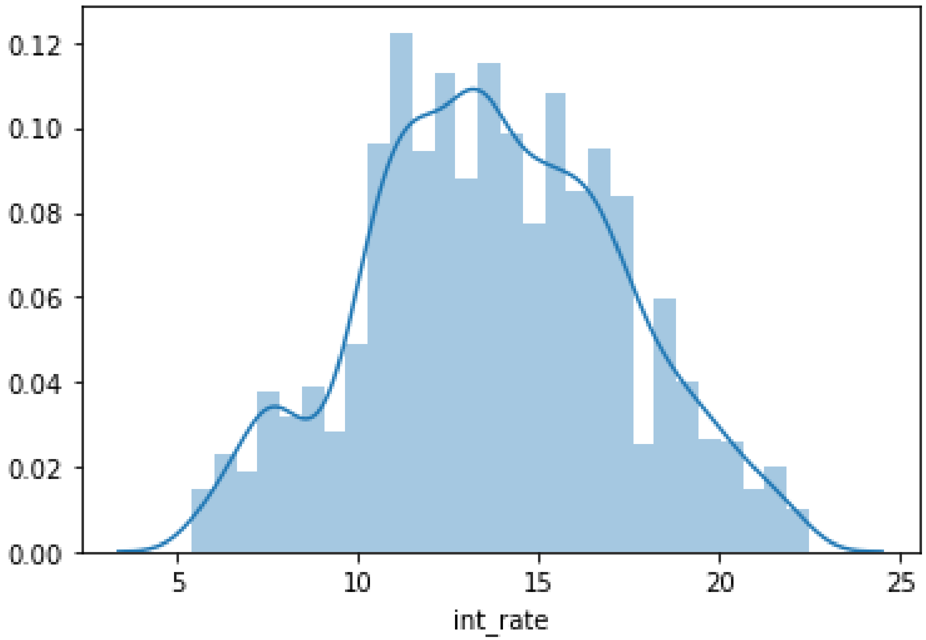
It has been observed that California, New York, Florida, Illinois, New Jersey and Texas contribute about a massive 50% of total applications with California and New York alone accounting for 25% compares to the rest of the States. Through this analysis, there are two possible outcomes with one outcome explaining the higher potential of these 6 States. It may also be inferred that there is a need to overhaul the business prospects in all the other States depending upon the domain knowledge.

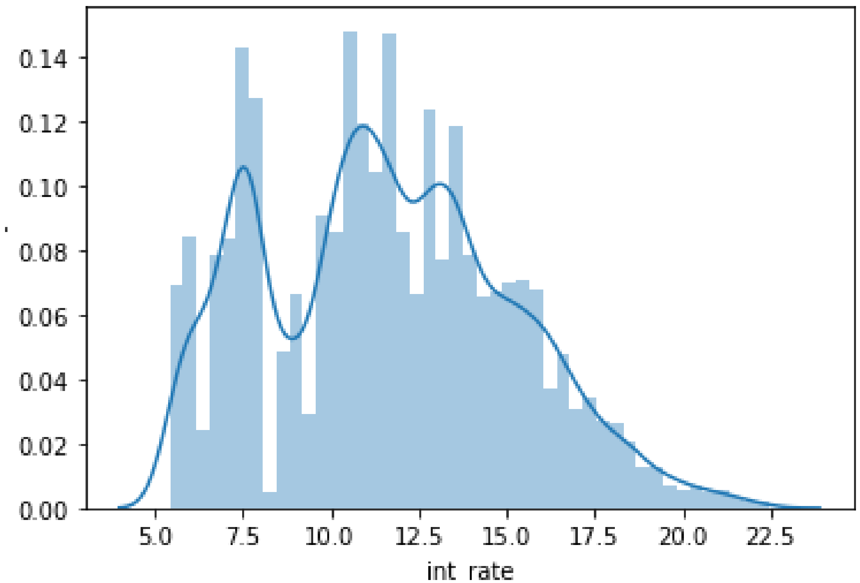


Univariate Analysis – Interest Rate

It has been observed that applicants with higher interest rates tend to default in loan repayment compared to the applicants levied lower interest rate. For instance the average interest rate levied to 'Fully Paid' Customers is 11% compared to an average interest of 13% for 'Charged Off' customers.

Fully Paid Customers VS Charged Off Customers

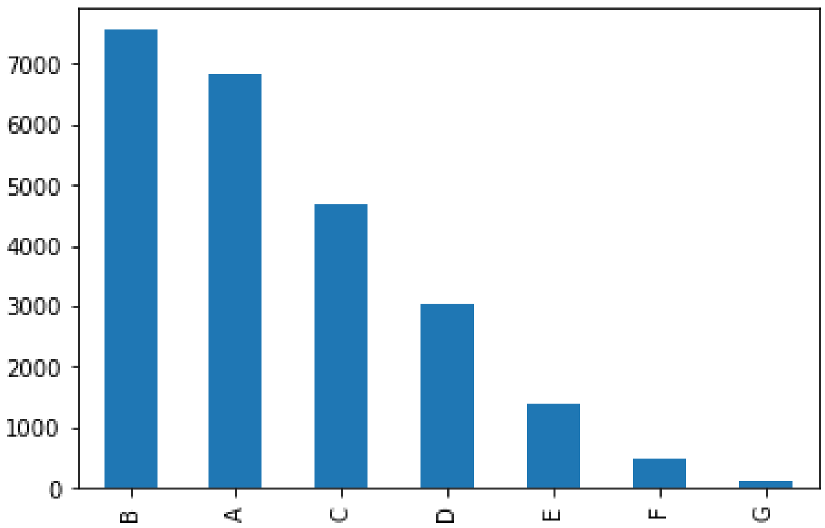


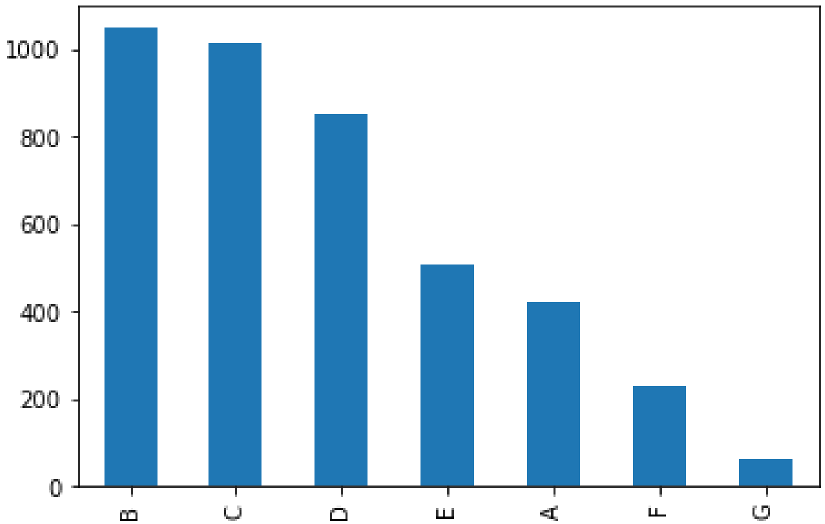


Univariate Analysis – Grade

Applicants belonging to higher grades (Grades ranked from A to G with A being the highest and G being the lowest) tend to repay the loan without defaulting. The chances of an applicant defaulting increases with decrease in his Grade.

Fully Paid Customers VS Charged Off Customers

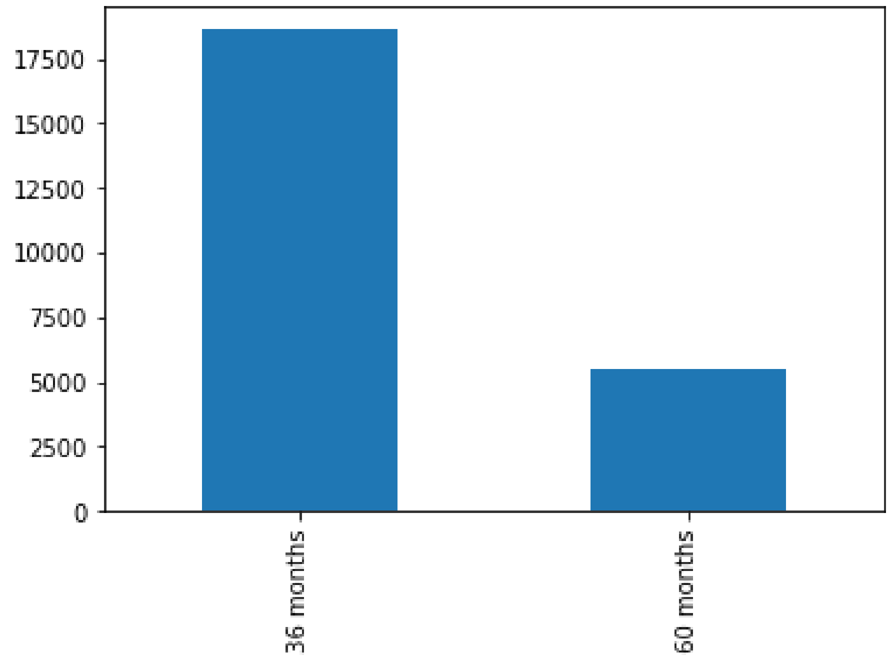


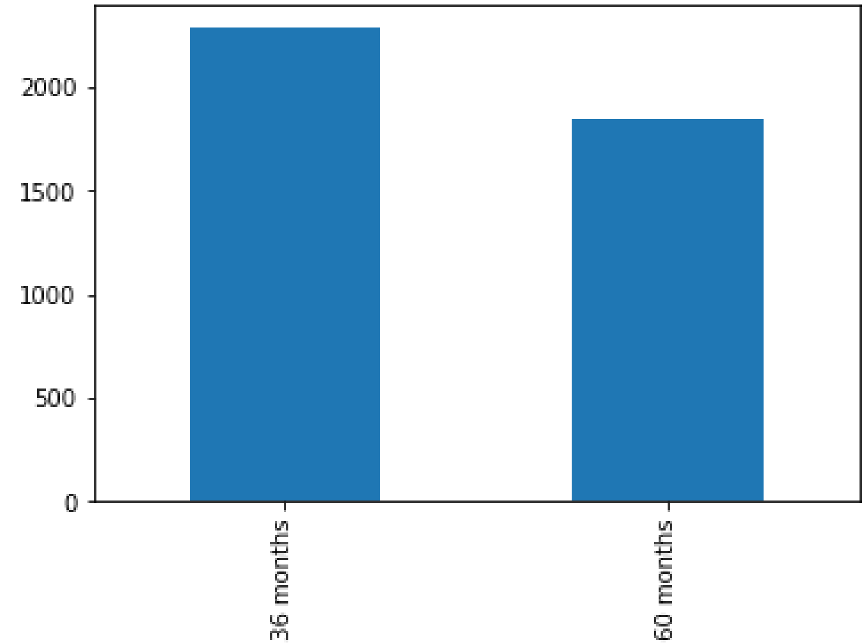


Univariate Analysis – Term

Applicants with a term of 60 months are more likely to default on loan payments. Relatively less number of people have fully paid their loans when provided with a tenure of 60 months

Fully Paid Customers VS Charged Off Customers

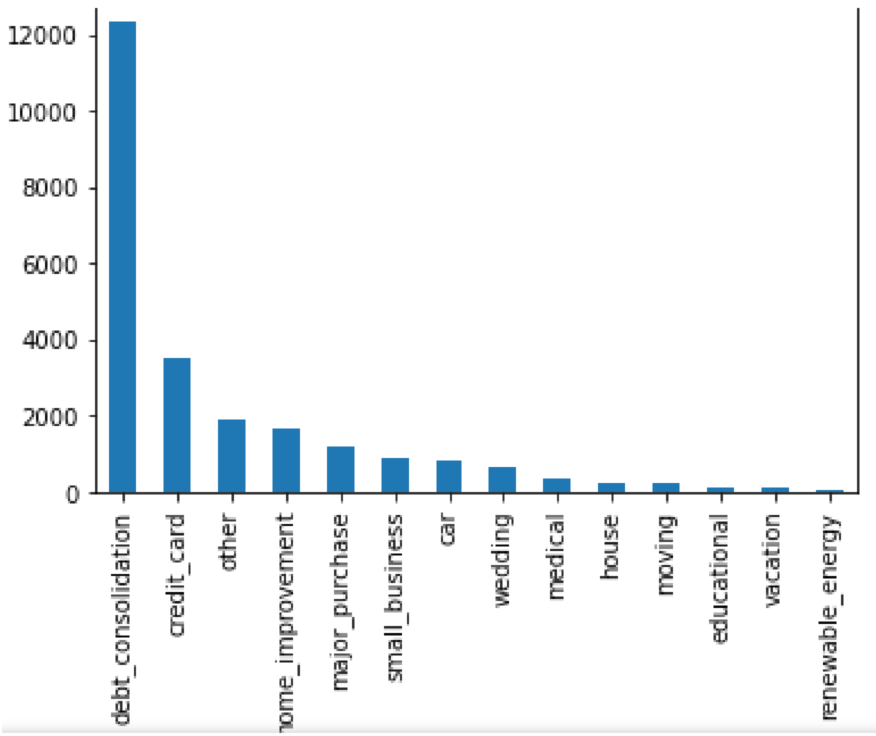


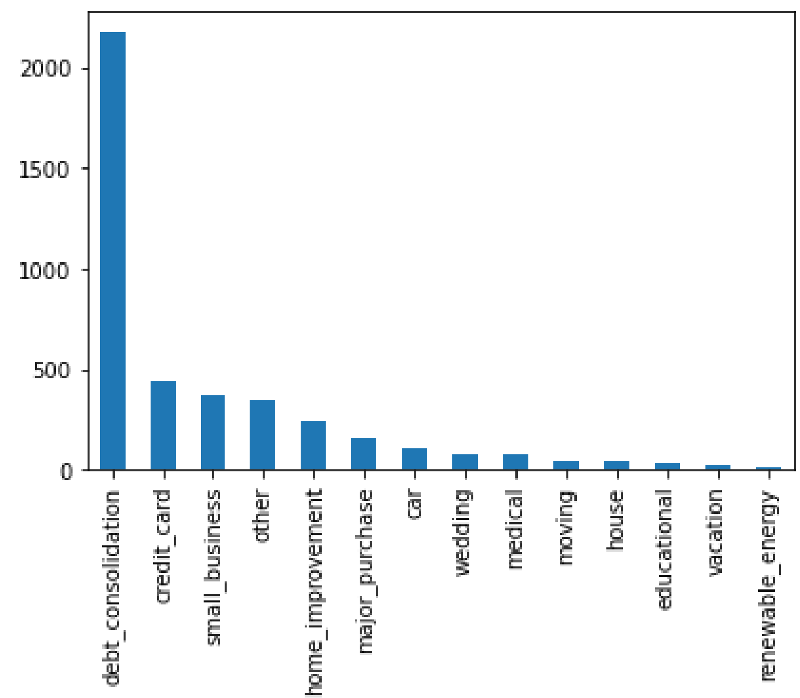


Univariate Analysis – Purpose

It has been observed that applicants with Small Business as the purpose are more likely to default in loan repayment and hence this category of applications prove to be risky.

Fully Paid Customers VS Charged Off Customers

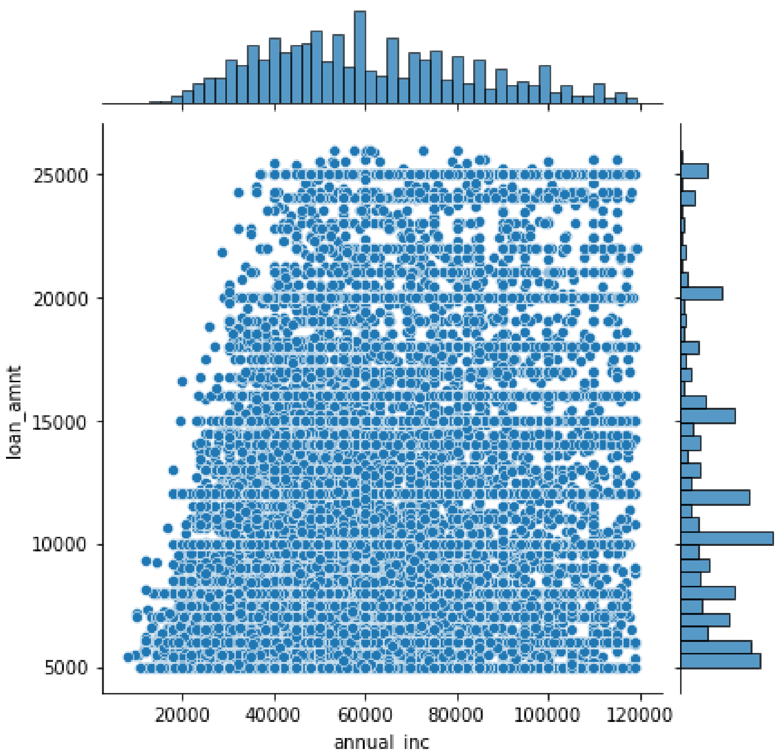


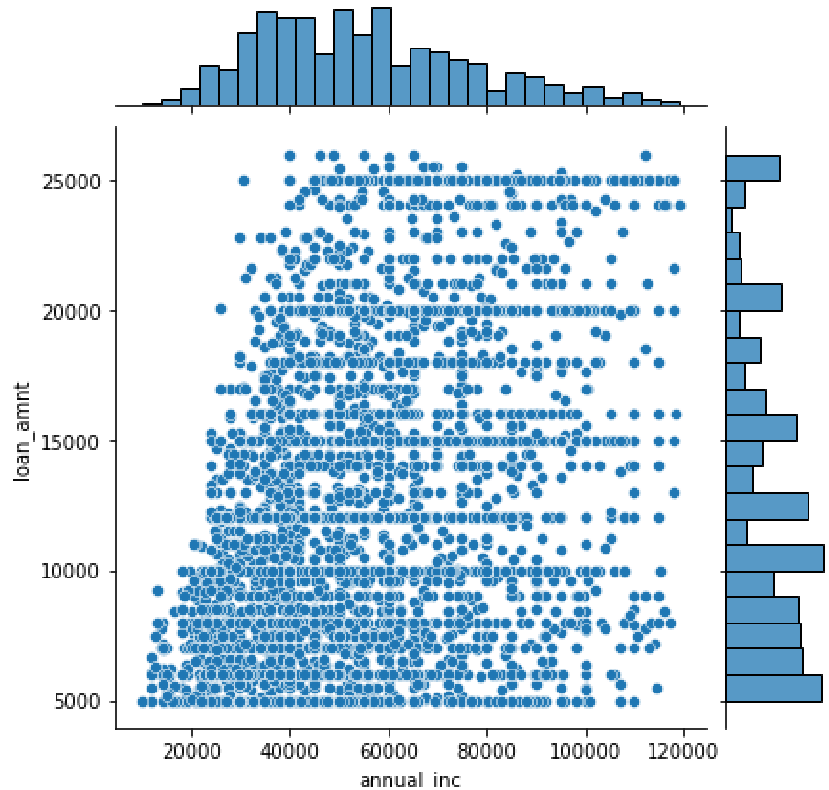


Bivariate Analysis – Loan Amount Vs Annual Income

Applicants with an Annual Income of 80K or more and loan amount of 15K or less are less likely to default in repayment of loan.

Fully Paid Customers VS Charged Off Customers





Conclusion

It has been observed that California, New York, Florida, Illinois, New Jersey and Texas contribute about a massive 50% of total applications with California and New York alone accounting for 25% compares to the rest of the States. Through this analysis, there are two possible outcomes with one outcome explaining the higher potential of these 6 States. It may also be inferred that there is a need to overhaul the business prospects in all the other States depending upon the domain knowledge.

- Customer with around 11% tends to pay the loan fully as compared to higher interest rate above 13%
- Customers with Grade A are less likely to default on loan payments.- Customers with a loan tenure of 60 months are more likely to default on loan payments.
- Customers with a loan purpose of Small Business are more likely to default as compared to other categories
- Customers with an annual income of 60K or above and loan amount of 15K or less, are less likely to default on loan payments