

# Lending Club Case Study

Abhijit Majumdar

## Observations of Univariate Analysis

Applicants who show the below characteristics are most likely to default on lending:

- Employment length of more than 10 years
- Interest rate between 13%-16.99%
- Installment amount less than 250
- Grade is B and Sub grade is 5
- Stays in rented accommodation
- Annual income between 27200 and 50400
- Accounts that are not verified
- Accounts that have taken loan for the purpose of Debt Consolidation
- People from California state
- Loans that were issued in Dec 2011
- Customers who have relatively newer credit line history of less than 10k days
- DTI between 12 and 18
- The number of 30+ days past-due incidences of delinquency in the borrower's credit file for the past 2 years is less than 2
- Inquiry in last 6 months is less than 20
- The number of open credit lines in the borrower's credit file is less than 10
- Revolving line utilization rate, or the amount of credit the borrower is using relative to all available revolving credit is between 60 and 80
- Total number of credit lines in account is less than 20
- Loan term is 36 months

## Observations of Bivariate Analysis

Applicants who show the below characteristics are most likely to default on lending:

- When employment length is 10 years and higher and loan amount between 12000 & 14000
- When purpose is small\_business and loan amount is greater than 14000
- When home ownership is mortgage and loan amount is between 12000 and 14000
- When the loans were issued in December of 2011
- When grade is F and loan amount between 17500 and 20000
- When verification status is verified and loan amount between 14000 and 16000
- When annual income is higher than 60000 and purpose is home improvement
- When annual income is between 60000 and 80000 and home ownership is Mortgage
- When annual income is between 95000 and 12000 and loan\_amount is more than 17500
- When annual income is between 60000 and 70000 and interest rate is between 21-24%
- When loan\_amount is between 17500 and 20000 and interest rate is between 21-24%
- When interest rate is between 14-16% and term is 60 months
- When annual income is 50000-60000 and term is 60 months
- When loan\_amount is 14000-16000 and term is 60 months

## Correlation Map Analysis

- Fields loan\_amnt, funded\_amnt, funded\_amnt\_inv and installment are highly correlated
- These fields are proportional to each other
- Also the public records related fields pub\_rec & pub\_rec\_bankruptcies
- Number of accounts related fields open\_acc & total\_acc are correlated