Risk Profiling Assessment

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Outline

1. How would you approach this problem?
2. From where would you gather the data?
3. How would you clean and explore the data?
4. What features would you build in solution/model that will help business identify risk free potential customers?

How would you approach this problem?

Loans are the core business of Banks and Fintech companies . The main profit comes directly from the loan’s interest. The loan companies grant a loan after an intensive process of verification and validation. However, they still don’t have assurance if the applicant is able to repay the loan with no difficulties.

In a Simple Term, Company wants to make automate the Loan Eligibility Process in a real time scenario related to customer's detail provided while applying application for loan forms.

A system called loan credibility prediction system thats help organization in making right decision to approve or reject the loan request of the customers

From where would you gather the data?

We can gather the data from Credit Information Bureau . A credit bureau is a data collection agency that gathers account information from various creditors and provides that information to a consumer reporting agency.

CIBIL is now promoted by TransUnion International Inc. (TransUnion) to provide comprehensive credit information by collecting, collating and disseminating credit information, pertaining to both commercial and consumer borrowers, to a closed user group of members.

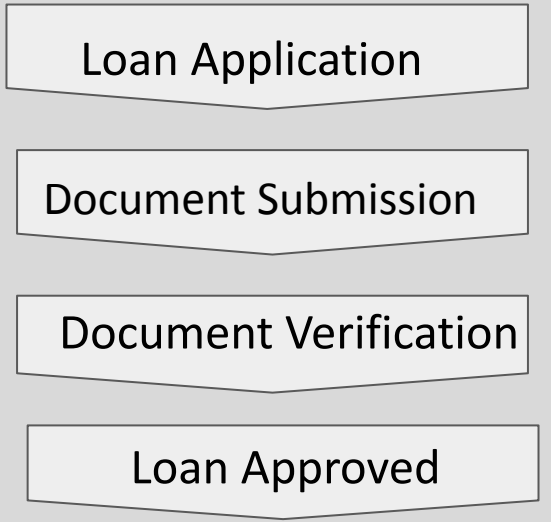
We can get data from Credit bureau API. Credit Bureau will provide API details to the registered Bank or Fintech Companies to fetch data of the customers.

About Loan Eligibility Prediction

Loan eligibility is defined as a set basis which a financial institution evaluates to decide the eligibility of a customer for a particular loan.

Criteria

- Loan Amount
- Dependent
- Marital Status
- Applicant Income
- Loan Amount Term
- Co-applicant Income
- Gender
- Credit History
- Property Area



How would you clean and explore the data?

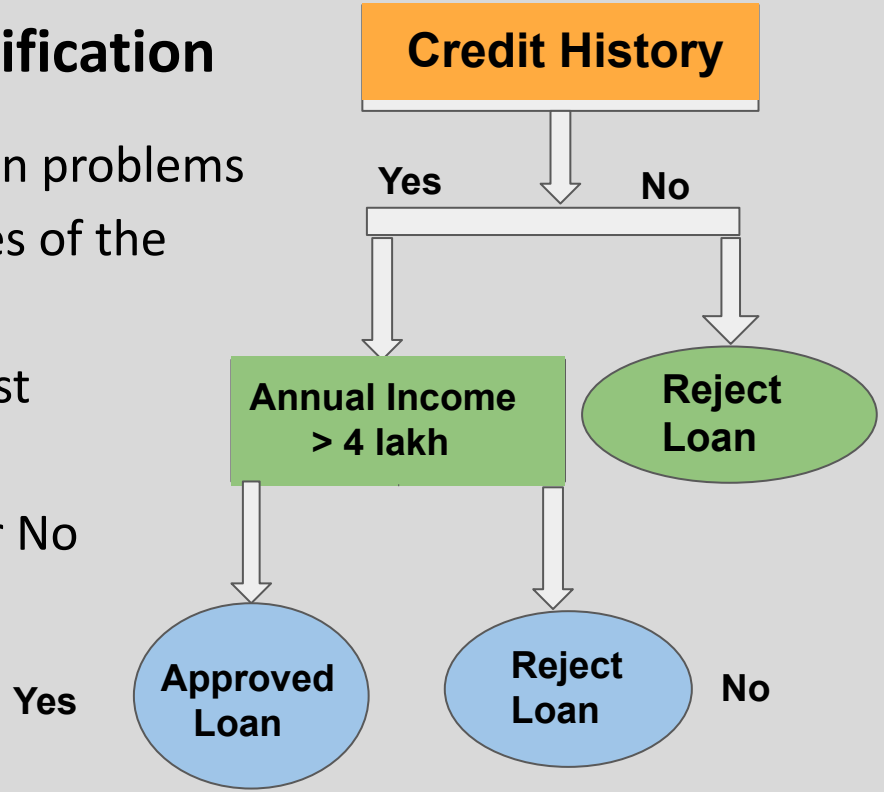
Exploratory Data Analysis

- First of all, We explore object type of data So let's make a function to know how many types of values available in the column
- To know, How many values available in object('categorical') type of features and Return Categorical values with Count.
- Our output maybe shorter or longer, It's totally depend upon our dataset's columns
- We need to fill null values with mean and median using missing package
- Convert Categorical variable with Numerical values.
- Loan_Status feature boolean values, So we replace Y values with 1 and N values with 0 and same for other Boolean types of columns
- Here, Property_Area, Dependents and Education has multiple values so now we can use LabelEncoder from sklearn package
- We have all the features with numerical values

What features would you build in solution/model that will help business identify risk free potential customers?

Decision Tree Classification

- Used for both classification and regression problems
- The internal node represent the attributes of the dataset
- Branch represents the outcome of the test
- Each leaflet nodes represent a class label
- It asks a question and answers it in Yes or No



Loan Underwriting

Loan Underwriting is the process of evaluating the credit worthiness of a potential customer and deciding to whether or not lend to them

Principles of Underwriting

1. Verification - ensuring the genuinity of the customer
   - Identity verification
   - Address verification
2. Ability to pay back the loan
3. Intend/Willingness to pay back the loan

Steps of Credit Analysis Process

1. Collecting loan information of the applicant,
2. Collecting business information for which loan is sought,
3. Collecting the risk related information,
4. Assembling all credit information together,
5. Analyzing sensitive risky credit information,
6. Analyzing refined & very essential risk information,
7. Making a decision on the basis of loan analysis,
8. Design the appropriate loan structure according to a positive decision.

Thank You