Loan Approval Prediction

Concept Document

Makerere University, College of Computing and Informatics Sciences

Software Engineering

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Date: 24th June 2019

**LOAN PREDICTION PROBLEM STATEMENT**

**About**

A Finance Company offers loans across all urban, semi urban and rural areas. A customer first applies for a loan after that company validates the customer’s eligibility for loan.

**Problem**

A company wants to automate the loan eligibility process (real time) based on customer detail provided while filling online application form. These details are Gender, Marital Status, Education, Number of Dependents, Income, Loan Amount, Credit History and others. To automate this process, we have a given problem;

To identify the customers’ segments and determine those eligible for a specific loan amount so that the company can specifically target these customers.

**Type of Problem**

The above problem is a classification problem as we need to classify whether the Loan\_Status is yes or no.

So this can be solved by any of the classification techniques like

* Logistic Regression.
* Decision Tree Algorithm.
* Random Forest Technique.

**Exploratory Data Analysis**

By looking at the columns and the description we can make some assumptions which may include;

* The one whose salary is more can have a greater chance of loan approval.
* The one who is graduate has a better chance of loan approval.
* Married people would have a upper hand than unmarried people for loan approval.
* The applicant who has less number of dependents have a high probability for loan approval.
* The lesser the loan amount the higher the chance for getting loan.

**Expected Data**

**Variable descriptions**

|  |  |
| --- | --- |
| **Variable** | **Description** |
| Loan\_ID | Unique Loan ID |
| Gender | Male/Female |
| Married | Applicant married (YES/NO) |
| Dependents | Number of dependents |
| Education | Applicant Education (Graduate/ Under Graduate) |
| Self\_Employed | Self employed (YES/NO) |
| ApplicantIncome | Applicant income |
| CoapplicantIncome | Coapplicant income |
| LoanAmount | Loan Amount in thousands |
| Loan\_Amount\_term | Term of loan in months |
| Credit\_History | credit history meets guidelines |
| Property\_Area | Urban/ Semi Urban/ Rural |
| Loan\_Status | Loan approved (YES/NO) |