Prediction of Modernized Loan Approval System Based on Machine Learning Approach

ABSTRACT

Technology has boosted the existence of humankind the quality of life they live. Every day we are planning to create something new and different. We have a solution for every other problem we have machines to support our lives and make us somewhat complete in the banking sector candidate gets proofs/ backup before approval of the loan amount. The application approved or not approved depends upon the historical data of the candidate by the system. Every day lots of people applying for the loan in the banking sector but Bank would have limited funds. In this case, the right prediction would be very beneficial using some classes-function algorithm. An example the logistic regression, random forest classifier, support vector machine classifier, etc. A Bank's profit and loss depend on the amount of the loans that is whether the Client or customer is paying back the loan. Recovery of loans is the most important for the banking sector. The improvement process plays an important role in the banking sector. The historical data of candidates was used to build a machine learning model using different classification algorithms. The main objective of this paper is to predict whether a new applicant granted the loan or not using machine learning models trained on the historical data set.

**EXISTING SYSTEM**

Loan approval is a very important process for banking organizations. Banking Industry always needs a more accurate predictive modeling system for many issues. Predicting credit defaulters is a difficult task for the banking industry. The system approved or rejects the loan applications. Recovery of loans is a major contributing parameter in the financial statements of a bank. It is very difficult to predict the possibility of payment of loan by the customer. Machine Learning (ML) techniques are very useful in predicting outcomes for large amount of data. In the proposed system, three machine learning algorithms, Logistic Regression (LR), Decision Tree (DT) and Random Forest (RF) are applied to predict the loan approval of customers. The experimental results conclude that the accuracy of Decision Tree machine learning algorithm is better as compared to Logistic Regression and Random Forest machine learning approaches.

Disadvantages

* + In the existing work, the system doesn’t have techniques to analyze large scale data sets.
* This system is less performance due to lack of Linear Regression and Ridge Regression models

**PROPOSED SYSTEM**

* This proposed model will characterize the behavior of customers on the Basis of their record. These records is taken from the customers, and create a data set. With the help of These data sets and training machine learning model, we predict that the customer’s loan will passed or not.
* This Machine algorithms predict the possibility of a customer would be able to repay the loan or not and In this, we are going to discuss the advantage of loan prediction. In this system, we are going to predict that the person who is applying for a loan can repay or not. If the client can repay then we predict that yes, eligible for a loan. And if the candidate fails then we predict that client is not eligible.

**Advantages**

* The advantage of this system is that we provided some conditions by setting the algorithms and just by evaluating the details, we get to know eligibility criteria that client is eligible or not.
* This system may be built which is able to take various inputs from the users like salary, address, loan amount, loan duration, etc and provide a prediction of whether their application will be approved by the bank or not.
* This Research paper helps the banks to minimize the possible losses and can increase the volume of credits.

**SYSTEM REQUIREMENTS**

➢ **H/W System Configuration:-**

➢ Processor - Pentium –IV

➢ RAM - 4 GB (min)

➢ Hard Disk - 20 GB

➢ Key Board - Standard Windows Keyboard

➢ Mouse - Two or Three Button Mouse

➢ Monitor - SVGA

**SOFTWARE REQUIREMENTS:**

* **Operating system :** Windows 7 Ultimate.
* **Coding Language :** Python.
* **Front-End :** Python.
* **Back-End :** Django-ORM
* **Designing :** Html, css, javascript.
* **Data Base :** MySQL (WAMP Server).