Applied Data Science
Smart Lender-ApplicantCredibility Prediction for Loan Approval

LITERATURE SURVEY

[1] TITLE:”An Approach for prediction of loan approval using Machine Learning algorithm”.

AUTHORS: Mohammad Ahmad Sheikh,Amit Kumar Goel,Tapas Kumar.

JOURNAL NAME AND YEAR:ICESC,2020.

DESCRIPTION: This model is marginally better because it includes variables(personal attributes of customers like age,purpose,credit history,credit amount ,credit duration,etc.)other than checking account information.Therefore,by using a logistic regression approach,the right customers can be targeted.

LIMITATION: Some other characteristics of customers that play a very important role in lending

decisions and forecasting defaulters should be evaluated such as gender and marriage history has not considered in this system.

[2] TITLE:"A machine learning approach for predicting bank credit worthiness".
AUTHOR: Turkson,Regina Esi,Edward Yeallakuor Baagyere,and Gideon Evans Wenya.
JOURNAL NAME AND YEAR:IEEE,2016.
DESCRIPTION: They have employed 15 different learning algorithms on the dataset in order to determine which one is best for studying bank credit data sets.Each of these algorithms achieved an accuracy rate between 76% to over 80%.
LIMITATION: The algorithm Nearest centroid and Gaussian Naïve Bayes have not performed well compared to others in terms of Speed and accuracy.

[3] TITLE:"Credit Risk Model Based on Central Bank Credit Registry Data" .

AUTHOR: Fisnik Doko,Slobodan Kalajdziski,Igor MishKovski.

JOURNAL NAME AND YEAR:MDPI,2021.

DESCRIPTION: It has compared five machine learning models to classify credit risk data,i.e.,logistic regression,decision tree,random forest,support vector machine(SVM)and neural network.It can predict the credit risk based on credit history of the population in the country.

LIMITATION: Does not provide better accuracy in lower execution time and have variance and uncertainty in it.

[4] TITLE:"Loan Credibility Prediction System Based On Decision Tree Algorithm".

AUTHOR: Sivasree M S,Rekha Sunny T.

JOURNAL NAME AND YEAR:IJERT,2015.

DESCRIPTION: It has introduced an effective prediction model for the bankers that help them predict the credible customers who have applied for

loan .Decision Tree induction Data mining Algorithm is applied to predict the attribute relevant for credibility.

LIMITATION: Should be incorporated with other techniques that outperform the performance of popular data mining models and should be tested for the domain.

[5] TITLE:"Extracting Prediction Rules for Loan Default Using Neural Networks through Attribute Relevance Analysis".

AUTHOR: M.V.Jagannatha Reddy and Dr.B.Kavitha.

JOURNAL NAME AND YEAR: IJERT,2010.

DESCRIPTION: This system has extracted prediction rules from the predicted class label and has reduced the number of units required using attribute relevance analysis so that it has increased the speed of neural network technique for predicting the class label of the tuples and it has

used attribute relevance analysis to eliminate irrelevant attributes given as input to neural network.

LIMITATION: In attribute relevance analysis the attributes retained for predicting the class label is very less and the accuracy is appreciable but still can improve the accuracy by calculating the error in wrong predicted rules by adjusting the weights of the neural network .

[6] TITLE:"Loan Approval Prediction based on Machine Learning Approach".

AUTHOR: Kumar Arun,Garg Ishan,Kaur Sanmeet.

JOURNAL NAME AND YEAR:IOSR,2016.

DESCRIPTION: This paper has reduced the risk factor behind selecting the safe person so as to save lots of bank efforts and assets. This is done by mining the big data of the previous records of the people to whom the loan was granted before and on the basis of these records/experiences the machine

was trained using the machine learning model which give the most accurate results.

LIMITATION: The disadvantage of this model is that it emphasize different weights to each factor but in real life sometimes loan can be approved on the basis of single strong factor only,which is not possible through this system.