**INTRODUCTION**

Prediction of modernized loan approval system based on machine learning approach is a loan approval system from where we can know whether the loan will pass or not. In this system, we take some data from the user like his monthly income, marriage status, loan amount, loan duration, etc. Then the bank will decide according to its parameters whether the client will get the loan or not.

So there is a classification system, in this system, a training set is employed to make the model and the classifies may classify the data items into their appropriate class. A test dataset is created that trains the data and gives the appropriate result that, is the client potential and can repay the loan.

Prediction of a modernized loan approval system is incredibly helpful for banks and also the clients. This system checks the candidate on his priority basis. Customer can submit his application directly to the bank so the bank will do the whole process, no third party or stockholder will interfere in it. And finally, the bank will decide that the candidate is deserving or not on its priority basis. The only object of this research paper is that the deserving candidate gets straight forward and quick results.

II. MACHINE LEARNING ALGORITHMS

In this research paper we are using three Machine Learning algorithms which are used to find out the correct prediction of Data set.

**(a) XGBoost –** XGBoost is a Decision tree based open source software library. It implements machine learning algorithms that uses a gradient boosting framework. It works on Linux, Windows, and macOS.

**(b) Random Forest–** Random forests is a classification algorithm which builds big number of Decision tree, whose prediction is mor

**(c) Decision Tree –** A Decision tree split the dataset in to smaller parts. And then predict the every chances.

III. PROBLEM FORMULATION

There is a major problem that many people not able to back the loans to banks. And banks are going in losses.

Banks received many applications for loan approval day by day and not everyone gets approved. Most of the banks have their own credit score and risk assessment techniques so as to check that the loan is approved or not. Why this loan problem arises this question will get resolved in just a few minutes. The main reason to get a loan is to fulfill the needs of something. For a businessman he/she wants to increase the business or if that company is at loss to get over from that he/she needs a loan. In middle-class people wants to fulfill their needs so they want a loan. So, the main thing of this to fulfill the needs of someone or for something.

Again the question arises that what are the problems that are forming in providing the loans. The answer to this question that not everybody can loan because if he/she is not able to return then who is providing the loan he/she or the company or the bank that is providing the loan will get in the loss. So, first who is providing the loan they have to verify or set some criteria that who is taking the loan is able to return or not. Like in banks like we have a credit card facility but not everybody gets a credit card. For that, a credit score is there to check whether eligible or not. For credit score one should have a good credit score then he/she be able to get a loan. Some criteria like a source of income should be there for getting a credit card. Banks provide loans on behalf of one who is taking the loan he/she should provide some documents and verify. Like some company not able to provide the loans then banks get in loss and they called it NBFC's.

During this project data processing algorithms are going to study loan-approved data might help in predicting the like defaulters thereby helping the banks for creating better decisions within the future.