Loan Prediction Analysis using Artificial Neural Networks

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Problem Statement

These days banks have become a crucial part of our livelihood and are playing a major role in developing a nation and also in the country’s economy by lending its customers money and getting it back with an interest rate.So in order for a bank to provide a loan it needs to make sure that the customer should be able to pay it back with proper interest within the time span.Hence predicting the most eligible customers would be beneficiary to both the bank and the customer.

# Dataset

For this case study i am using a csv file containing all the details regarding the loan i.e interest rate, installment, annual income etc.This rich detailed file would be used as the input data for training the algorithm.

# Algorithm

An Artificial Neural Network model has been used for training and the prediction of the output.This output of the algorithm will help the bank to decide weather the borrower will default or not default.

We feed the input of the classifier after splitting the training and testing data set.Training and testing dataset is created to train the model and to validate the performance of generated model for its predictions.How much better the classifier is doing in predicting the data as a super vised learning algorithm.

# Result

So the accuracy that was achieved with the generated ann model was around 78.4% which is the testing accuracy and the f1 score for the test data set.For better results the input data could be normalised and fine tuned for better performance.The following screenshot depicts the final output.

