

Micro-Credit Defaulter Model

Submitted by:

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**ACKNOWLEDGMENT**

Many thanks to the following resources that helped me and guided for the project

MachineLearning :

https://www.cs.ubc.ca/~nando/540-2007/

https://www.kaggle.com/sivakrishna3311/delinquency-telecom-model

https://medium.com

DataTrain

Asta Mishra at FlipRobo

**INTRODUCTION**

* Business Problem Framing

Build a model which can be used to predict in terms of a probability for each loan transaction, whether the customer will be paying back the loaned amount within 5 days of issuance of loan. In this case, Label ‘1’ indicates that the loan has been payed i.e. Non- defaulter, while, Label ‘0’ indicates that the loan has not been payed i.e. defaulter.

* Conceptual Background of the Domain Problem

A Microfinance Institution (MFI) is an organization that offers financial services to low income populations. Microfinance services (MFS) becomes very useful when targeting especially the unbanked poor families living in remote areas with not much sources of income. The MFS provided by MFI are Group Loans, Agricultural Loans, Individual Business Loans.

* Review of Literature

should prepare a model to predict the loan re-pay status

* Motivation for the Problem Undertaken

Defaulter model should be the useful for improve the business of MFI .

**Analytical Problem Framing**

* Mathematical/ Analytical Modeling of the Problem

Can find the correlation of features and describe the statical analysis using core functions

* Data Sources and their formats

MFI has been provided customers data in .csv format .

* Data Preprocessing Done

followings steps has been performed in the process of data cleasing

* data imported
* negative/null data verification/handling
* Data Inputs- Logic- Output Relationships

Label (target variable) depends on all the features of 30 or 90 days mobile loan/repay .

Pcricle and msisdn are not effect the target variable

* Hardware and Software Requirements and Tools Used

anacoda

python 3.8 and ML core libraries

**Model/s Development and Evaluation**

* Identification of possible problem-solving approaches (methods)

Classification Model with following algorithms

* KneighborsClassifier
* LogisticRegression
* DecisionTreeClassifier
* GaussianNB
* SGDClassifier

ensemble methods

* AdaBoostClassifier
* GradientBoostingClassifier
* RandomForestClassifier

**CONCLUSION**

model which can be used to predict in terms of a probability for each loan transaction, whether the customer will be paying back the loaned amount within 5 days of issuance of loan

RandomForestClassifier Model with MAX Accuracy score value