Report

Introduction

Name of the project :- Loan amount prediction

A loan is the core business part of banks. The main portion the bank's profit is directly come from the profit earned from the loans. Though bank approves loan after a regress process of verification and testimonial but still there's no surety whether the chosen hopeful is the right hopeful or not. This process takes fresh time while doing it manually. We can prophesy whether that particular hopeful is safe or not and the whole process of testimonial is automated by machine literacy style. Loan Prognostic is really helpful for retainer of banks as well as for the hopeful also.

Data Description

```
Loan_ID
Gender
Married
Dependents
Education
Self_Employed
ApplicantIncome
CoapplicantIncome
LoanAmount
Loan_Amount_Term
Credit_History
Property_Area
Loan Status
```

PROBLEM STATEMENT

Here we are try to find out Machine learning model to predict whether assigning the loan to particular

person will be safe or not.We are using 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 (Logistic Regression model) which give the most accurate result

Approach

My approach to the solution of this project is first doing the visualization of the data evaluation matrices as well such as precision, recall, and f1 score for all the models.

My approach to the solution of this project

- First to anylse the data by column by column
- Identify and remove all the null values
- Used “bifill” for filling null values
- Remove the null values from the data
- Identify duplicate values and replace with original values
- Visualize the data
- Use capping technic - capping technic is used for removing outliers .

  I removed top and bottom 1%
- Created there models uses linear regression
- Used formulas for the calculation of predictions
- Acquired 81 % of accuracy

Visualization

➔ For visualization i have used

➔ Countplot
➔ Boxplot
➔ Heat map

➔ visualized every column to find for whom have higher & lower chances of getting approval for loan
➔ For every coloumn i mentioned who have higer changes of getting loan approval

Algorithms

As I mentioned, I have used various classification models on this dataset and they have different accuracy and other performance measures. I have used the following machine learning algorithms on our dataset.

1. LogisticRegression model

(linear regression)

Evaluation

F-1 0.81

comparison
0.9

Conclusion Future Work

From a proper analysis of positive points and constraints on the member, it can be safely concluded that the product is a considerably productive member. This use is working duly and meeting to all Banker requisites. This member can be freely plugged in numerous other systems. There have been mathematics cases of computer glitches, violations in content and most important weight of features is fixed in automated prophecy system, so in the near future the so – called software could be made more secure, trustworthy and dynamic weight conformation. In near future this module of prophecy can be integrated with the module of automated processing system. The system is trained on old training dataset in future software can be made resembling that new testing date should also take part in training data after some fix time

You can also add difficulty faced

I faced difficulty in finding which model suits my project

In the middle of the project i got confused which model of regression to used in the project

I got less f-1 score at the first then i took referance from the kaggle for selection of logictical regression model

References

- **I took help from the website called anylitcalvidhya from this website i have learned some data anylitical related problem and sollutions**

- **And also learned about the models of regression**

- **I took help from online resources to get formulas**

- **And also i have used kaggle for the referance of my project**

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