Loan Prediction Analysis using Machine Learning

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Loan Prediction

» Initials

Loan

- Banks and Companies provide loans to individuals who apply for loan
- But, Banks/companies have limited assets
- Finding out an eligible individual to whom loan can be granted safely is an important and typical process

Motivation

» Motivations

Motivation Scenerio

- Dream Housing Finance company deals with home loans
- Customers apply for home loans and company validates their eligibility for loan
- They want to automate their loan eligibility process

Goal

Build an interface to predict whether any person loan would be approved or not (Using Machine Learning approach)

Contributions

» Contributions

In this project, we

- Proposed a classification model to automate loan eligibility process
- It predicts eligibility for loan of any individual

Dataset

Used Kaggle Loan Prediction Problem Dataset

Advantages of This Project

» Advantages

* Such model is useful for automating the process of validating loan eligibility
* Reduces manual effort of bank/companies and increase productivity

Project Demonstration

» Project Demonstration

Dataset

Dataset link is given **here**

Project

Github link of project is given **here**

Libraries and Models

* Libraries for data analysis
  * Classification Models

Libraries and Models

* Libraries for data analysis
  * Classification Models

» Utilized ML Libraries

* numpy
* pandas
* Matplotlib.pyplot
* seaborn
* sklearn.model_selection import train_test_split, cross_val_score
* sklearn.metrices import confusion_matrix
* sklearn.linear_model import LogisticRegression
* sklearn.tree import DecisionTreeClassifier
* sklearn.ensemble import RandomForestClassifier, ExtraTreesClassifier

Libraries and Models

* Libraries for data analysis
* Classification Models

» Utilized ML Models

* LogisticRegression
* DecisionTreeClassifier
* RandomForestClassifier
* ExtraTreesClassifier
* XGBClassifier

Conclusion

» Conclusion

Conclusion

* Used Hyperparameter tuning on RandomForestClassifier
* Used Confusion Matrix for evaluating prediction performance

Thank you for your attention!
Have a Good Day