Capstone Project 3 Submission

# Credit Card Default Prediction

**Capstone Project Summary**

This Dataset is historical dataset of Taiwan having all details of Credit Card users.

It Comprises of 30,000 rows x 25 column , having all essential information of users , like Credit limit , Gender , Age , marital Status, Education level , Past billed amount , History of past payments etc.

The Problem statement is to predict about the customers that whether a particular customer will default on their payment or not.

We aimed to assess the dataset using all given independent Variables , followed by application of all algorithms and metrics on it ,Our Perspective was to use all above iterated information and to prepare a model which can predict using all those details that whether a particular customer will default on payment or not ,

Looking at the data we plotted all the information graphically to analyze them, then we also dropped a column and checked all columns for multi collinearity.

Thereafter that we have implemented below Algorithms on it :-

* Logistics Regression
* KNN
* Naïve Bayes
* SVM
* XG boost &
* Decision Tree

Along with All above algorithms we have used below Metrics to analyze various scores.

* Accuracy
* Precision
* Recall
* F1 Score
* ROC
* Confusion Matrix

**Our Findings are :-**

* People aged 28-40 yrs are the highest users of Credit Cards.
* Female Users are around 40% more than Male users.
* Percentage of Defaulters are around 25% of the NON Defaulters.
* Students of University uses Credit cards most, followed by Graduates.
* Percentage of Unmarried Credit Card users are around 20% more than Married People.
* Males default More on payments as compared to ladies.
* Credit limit of Males are slightly lesser than females.
* Singles use credit cards more than the Married ones.
* Married People default on payment very less as compared to singles.
* Graduation Students defaults on payments much more than University students.

# Conclusion :-

Married more Educated female Credit Card users whose age is between 28-40 and are least likely to default on their payments.

And Single Men less educated whose ages are lesser than 28 or more than 40 are most likely to default on payments.

Accordingly the company can device their target customer strategy for the above Niche Market.,

# Team Member’s Name, Email and Contribution: Contributor Roles :

* + **Kundan Lal :** [**kundanlal2001@gmail.com**](mailto:kundanlal2001@gmail.com)
  + Performing KNN Algorithm
  + Performing Logistics Regression
  + Finding Below Metric Values :-
  + Accuracy
  + Precision
  + Recall
  + F1 Score
  + ROC
  + Confusion Matrix
  + Conclusion
  + Summary

# Pankaj Sudhir Ganjare : [ganjarepankaj@gmail.com](mailto:ganjarepankaj@gmail.com)

* + Performing SVM Algorithm
  + Finding Below Metric Values :-
  + Accuracy
  + Precision
  + Recall
  + F1 Score
  + ROC
  + Confusion Matrix

|  |
| --- |
| * **Abhijeet Kulkarni :** [**abhijeetkulkarni11020@gmail.com**](mailto:abhijeetkulkarni11020@gmail.com) * Importing Dataset. * Summary of data Checking Dataset for null values. * Data preprocessing. * Data visualization * Performing Naïve bayes Algorithm * Finding Below Metric Values :- * Accuracy * Precision * Recall * F1 Score * ROC * Confusion Matrix * **Akshay Auti :** [**auti.akshay09@gmail.com.**](mailto:auti.akshay09@gmail.com) * Performing XGBOOST Algorithm * Performing Decision Tree Algorithm * Finding Below Metric Values :- * Accuracy * Precision * Recall * F1 Score * ROC * Confusion Matrix |
| **Github Link:-** **https://github.com/pankajganjare/Credit-Card-Default-Prediction.git** |
| **Google Drive Link : -- https://drive.google.com/drive/folders/1A9PMYdND7PxAj3T-ZvgjfJVjML9Rc-n0?usp=sharing** |
|  |

|  |
| --- |
|  |