Capstone Project Submission

Instructions:

- Please fill in all the required information.
- Avoid grammatical errors.

Team Member's Name, Email and Contribution:

Contribution Roles:

i). **Pratiksha Kharode (pratikshakharode1312@gmail.com) :-**

- Data Cleaning
- Model Implementation
  - Decision Tree
  - KNN

ii). **Gaurav Bhakte (bhaktegaurav1999@gmail.com) :**

- Data Description
- Model Implementation
  - XGBOOST

iii). **Vinit Ladse (ladsevinit7@gmail.com) :-**

- General Analysis
- Perform EDA(Exploratory Data Analysis)
- Model Implementation
  - Logistic Regression

Please paste the GitHub Repo link.

Github Link :- https://github.com/Pratikshakharode/Bank-Marketing-Effectiveness-Prediction.git

Please write a short summary of your Capstone project and its components. Describe the problem statement, your approaches and your conclusions. (200-400 words)

The data is related with direct marketing campaigns (phone calls) of a Portuguese banking institution. The marketing campaigns were based on phone calls. Often, more than one contact to the same client was required, in order to access if the product (bank term deposit) would be ('yes') or not ('no') subscribed.

- age (numeric)
- job : type of job (categorical: 'admin.','bluecollar','entrepreneur','housemaid','management','retired','self-employed','services','student','technician','unemployed','unknown')
- marital : marital status (categorical: 'divorced','married','single','unknown'; note: 'divorced' means divorced or widowed)
- education (categorical: 'basic.4y','basic.6y','basic.9y','high.school','illiterate','professional.course','university.degree','unknown')
- default: has credit in default? (categorical: 'no','yes','unknown')
- housing: has housing loan? (categorical: 'no','yes','unknown')
- loan: has personal loan? (categorical: 'no','yes','unknown')

The classification goal is to predict if the client will subscribe a term deposit (variable y).

Discussion of Portugal Bank Institution Dataset will involve various steps such as:

- Loading the data into data frame
- Data Description
- Exploratory Analysis and Visualizations
- Model Implementation
- Decision Tree
- KNN
- XGBoost
- Conclusion

That's how we have accomplished our team work in Bank Marketing Effectiveness Prediction Project.Throughout the project we learn many new things right from takingproblem statement to understand the technical side of a data to analysis. We deal with Portugal Banking institution data.

- The model helps to target the right customer rather than wasting time on wrong customer
- Comparing to all algorithms XGboost algorithm has best accuracy score and ROC-AUC score . So it is concluded as optimal model.
- The model can help to classify the customers on the basis on which they deposit or not.

Drive Link:- https://drive.google.com/drive/folders/1OLYG8GNi4fiIRKZlazwnA5G9AruXQcZX?usp=sharing