Capstone Project 1:

In this project, the following machine learning algorithms and techniques were applied:

1. Decision Tree
2. Random Forest
3. XG-Boost
4. ADA-Boost
5. Logistic Regression
6. Ensemble
7. Bagging
8. Feature Engineering

The code for the above-mentioned algorithms is shown in the notebook below:
https://github.com/mnabeel11/Springboard/blob/master/Capstone_1/Capstone_Project%201_In%20Depth%20Analysis_Machine%20Learning-checkpoint.ipynb

The data story for the project is shown in the notebook below:
https://github.com/mnabeel11/Springboard/blob/master/Capstone_1/Data_Story(Default%20of%20Credit%20Card).ipynb

The inferential statistics for the project is shown in the notebook below:
https://github.com/mnabeel11/Springboard/blob/master/Capstone_1/Inferential_Statistical_Analysis.ipynb

Results:

After applying all the algorithms mentioned above on the default of credit card clients, XG-Boost was found to be the best to predict if the client will default or not. XG-Boost gave an accuracy of 82 %. The table below shows accuracy of all the algorithms applied.

Models/Classifiers	Test Accuracy (%)
Decision Tree	82.11
Random Forest	82.08
Logistic Regression	78.11
XG-Boost	82.00
ADA-Boost	81.93
Ensemble (Voting Classifier)	81.8
Bagging	81.53