Capstone Project Submission

Instructions:
i) Please fill in all the required information.
ii) Avoid grammatical errors.

Team Member's Name, Email and Contribution:

1. AyushGoyal erayushgoyal96@gamil.com
2. M Sameer Ahamed sameerm8095@gmail.com
3. Niteshbhowmick nitesh.gnit@gmail.com

Please paste the GitHub Repo link.

GitHub link :- https://github.com/Ayugoyal/mobile-price-range-prediction

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

Mobile Price Range Prediction is made by 3 group members M Sameer Ahamed, AyushGoyaland Niteshbhowmick. In this project, we got Mobile Price Range as a CSV file.

As we downloaded the data as a CSV file from the almabetter capstone project dashboard we encoded the file in the colab notebook by mounting the drive. All the membersof the group participated throughout the projectwith great effort.

The data was huge and Understand the columns of the dataset.
The data was cleared and there are not any NaN& Null values also there are no duplicate values. Each and every column were compared to gain the knowledge for analysis. Worked individually gaining some insights by doing some EDA.

The first difficulty we faced was the to find the outlier in the dataset, so we checked each & every column & find out that there are not too many outliers in the dataset. By getting info from dataframe we plotted graphs for each data to understand and visualize thoroughly.

From the graphs, we cleared the price range, Battery power, Bluetooth connectivity, RAM, FC (front camera megapixels), PC (Primary camera Megapixels), Mobile weight and screen_size confirmed through the data presented.

We scale the data & then train & test the data.
After that, we deploy that data into four different algorithms & with hyperparameter tuning, these are Logistic Regression, Random Forest, Decision Tree & Support Vector Machine.

From all the above experiments we can conclude that Logistic regression and

Support Vector Machines with hyperparameters got the best results.

Accuracy Scores are 94% & 96%

Contributors Roles:
   1. **AyushGoyal:**
          1. Data Wrangling:
2. Visualizing mobile phones in 4 price ranges.
3. Visualizing how the battery mAh is spread with respect to price range.
4. Deploy &Run Logistic regression Model with hyperparametertunning.
          5. Visualizing Connectivity features & multi-collinearity.

2. **M Sameer Ahamed:**
1. Data Wrangling:
          2. Visualizing bluetooth connectivity with respect to price range.
          3. Visualizing Primary camera megapixelswith respect to price range.
4. Scaling the data ,Train & test the data
5. Deploy & Run Random Forest Model with hyperparametertunning.

3. **NiteshBhowmick:**
1. Data Wrangling:
          2. Visualizing RAM with respect to price range
          3. Visualizing bookings Screen Size wth respect to price range
          4. Deploy & Run Decision Tree Model with hyperparametertunning.
5. Deploy & Run Support Vector Mchine with hyperparametertunning.