Capstone Project Submission

Instructions:

i) Please fill in all the required information.

ii) Avoid grammatical errors.

Team Member's Name, Email and Contribution:
Name : Karan Tiwari **Email : karantiwari307@gmail.com** **Contribution:** **Colab notebook** **Project summary** **Technical documentation** **Project presentation** **Presentation video**
Please paste the GitHub Repo link.
Github Link:- https://github.com/Karantiwari307/Mobile-price-range-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)

Companies in the intensely competitive mobile phone market want to understand price-influencing elements and mobile phone sales numbers. The goal is to discover a relationship between a mobile phone's features and cost, we should present a price range that indicates how high the price is.

First we imported libraries like numpy and Pandas which will help us to do Exploratory Data Analysis. In the dataset there were 2000 rows and 21 columns .Dataset does not have any kind of null values and duplicate rows, so we proceeded to explore data using visualization libraries called seaborn and matplotlib . There we got many interesting insights of the data like number of mobile phones having Bluetooth, dual sim , Wi-Fi and many more things.

Then we plot a correlation map using heat map graph on the Dataset and we found that there is no correlated data inputs in our Dataset so there is no multicollinearity problem. Then we lead to data modeling and performed train test split for implementing machine learning models.

We implemented Logistic Regression, Decision Tree, Random Forest, XGBoost and K-Nearest Neighbor.

The accuracy score of :

- **Logistic Regression : 76%**
- **Decision Tree : 82%**
- **Random Forest : 88%**
- **XGBoost : 89%**
- **K-Nearest-Neighbor: 93%**

So we conclude that K-Nearest-Neighbor is our best fit model for our Dataset.