Verzeo Data Science with Python Minor Project

Shreyas Guduri

Project statement:

Create a classification model to predict whether price range of mobile based on certain specifications

Software used:

Google Colab notebooks are Jupyter notebooks that run in the cloud and are highly integrated with Google Drive.

Dataset:

https://drive.google.com/file/d/11l23hWbMQSO2VgWqRbYKvBwKlpH8ZjMw/view

Details of features:

- battery_power: Total energy a battery can store in one time measured in mAh
- blue: Has bluetooth or not
- clock_speed: speed at which microprocessor executes instructions
- dual_sim: Has dual sim support or not
- fc: Front Camera mega pixels
- four_g: Has 4G or not
- int_memory: Internal Memory in Gigabytes
- m_dep: Mobile Depth in cm
- mobile_wt: Weight of mobile phone
- n_cores: Number of cores of processor
- pc: Primary Camera mega pixels
- px_height: Pixel Resolution Height

- px_width: Pixel Resolution Width
- ram: Random Access Memory in Mega Bytes
- sc_h: Screen Height of mobile in cm
- sc_w: Screen Width of mobile in cm
- talk_time: longest time that a single battery charge will last when you are
- three_g: Has 3G or not
- touch_screen: Has touch screen or not
- wifi: Has wifi or not
- price_range: This is the target variable with value of 0(low cost), 1(medium cost), 2(high cost) and 3(very high cost).

Models used:

1. Logistic Regression
2. KNN Classification
3. SVM Classifier with linear and rbf kernel

Logistic Regression

Logistic regression is a process of modeling the probability of a discrete outcome given an input variable.

KNN Classification

The k-nearest neighbors (KNN) algorithm is a simple, supervised machine learning algorithm that can be used to solve both classification and regression problems.

SVM Classifier

Support Vector Machine” (SVM) is a supervised machine learning algorithm that can be used for both classification or regression challenges.

Result:

Logistic Regression has Accuracy of 63%
KNN has Accuracy of 92%
SVM has Accuracy of 63%
Comparing all accuracies, we can conclude that KNN has the highest Accuracy of 92%

Project link:

https://colab.research.google.com/drive/1LEMC8oVqoA5ycclE90PC8yy_84h-g0Qh?usp=sharing