

Mobile price prediction project

Domain

This project is in the technology sector.

Problem statement

In this Project, We're going to predict the price range of each mobile in the dataset based on the mobile specifications as : Battery power, 3G enabled , WiFi ,Bluetooth, Ram etc .

Usage

- This kind of prediction will help companies to estimate the price of mobiles of an mobile phone based on its specifications.
- Beside that it will help Consumers to verify that they are paying best price according to the specs of the mobile.

Dataset

- id : ID.
- 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 Megabytes.
- 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.

Contents

1. About the data.
2. Importing the libraries and the data.
3. Understanding the data.
4. Data analysis and visualization
 1. How does ram is affected by price ?
 2. What is the relation between Internal Memory and Price Range ?
 3. What is the percentage of Phones which support 3G ?
 4. What is the percentage of Phones which support 4G ?
 5. What is the relation between Battery power and Price Range ?
 6. Visualizing No of Phones vs Camera megapixels of front and primary camera.

7. What is the relation between Mobile Weight and Price Range ?

8. What is the relation between Talk time and Price Range ?

5. Preprocessing the data.

1. Normalizing the continuous columns.

2. Splitting the data.

6. developing the machine learning models.

1. Linear regression.

2. Logistic regression.

3. Decision tree.

4. SVM.

5. K-Nearest neighbors.

6. Random forest.

7. Conclusion.

8. Prediction on the test set.

Evaluation metrics

The evaluations metrics that I am using in this project are accuracy and confusion matrix.

Conclusion

logistic regression model outperforms other models in the mobile price classification problem with accuracy 94% .