Supervised Machine Learning (Classification)

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**Abstract**

To predict “If the mobile with given features will be

Economical or Expensive” is the main motive

of this research work. Different feature selection

algorithms are used to identify and remove less

important and redundant features and have

minimum computational complexity.

Different classifiers are used to achieve

as high accuracy as possible.

Results are compared in terms

of highest accuracy achieved and minimum

features selected. Conclusion is made on

the basis of the best feature selection

algorithm and best classifier for the given dataset.

This work can be used in any type of marketing

and business to find optimal products

(with minimum cost and maximum features).

Future work is suggested to extend this research

and find more sophisticated solutions to the

given problem and more accurate tools

for price estimation.

**Keywords: Machine Learning, KNN Algorithm, Naive Bayes, Support Vector Machine**

**Introduction**

The Customer’s very first question

is about the price of the stuff.

The customer always wonder

about the price of the product,

and if suppose he/she buy the product

so he thinks about whether the

product is good or not. To overcome

with all those problems i am

predicting the model using machine

learning which use to tell everything

related to the product, so he/she

can easily get that product

with his range.

**The Approach Used to Solve the Problem**

● To get meaningful insights from this dataset, an approach of asking exploratory data analysis helped a lot

.

● The dataset was imported and converted into a Pandas dataframe. After that doing an Exploratory Data Analysis.

● To get a correct trend we used Naive Bayes,KNN,SVM classification and checked for accuracy.

Graphs were plotted using Matplotlib and Seaborn libraries to visualise the analysis and in turn recognize trends in the data. This helped to get insights which are helpful for the mobile price prediction.

**Libraries used for analysis**

1. Pandas : To load the data into a dataframe object and analyse.

2. Matplotlib : To help visualise the data.

3. Seaborn : For added functionality to matplotlib.

4. Numpy : To use the numpy functions in analysis.

5. Sklearn: To do any machine learning model Scikit learn is very useful to make the correct trend.

**Dataset preparation before analysis**

We have mobile price range dataset

which consist of 20 features and 1 label.

By checking that features we have

to predict that how much price is

their for the mobile whether it’s

having higher price or lower

everything depends upon the

specifications of the mobile.

**Conclusion**

After learning our dataset we are predicting the price of our model which is most important in the business and marketing field.