

23.06.21

2

DW-DM END-SEM LAB

Ganesh Sethu

18BCSO37

U18CSI6203L

Set 3

## Support Vector Machine (SVM)

SVM is used for solving classification problems which have labelled data set and fall under the category of Supervised Learning. (SVR) = Support Vector Regression algorithm is used to classify the "items.csv" dataset

## Radial Basis function (RBF) kernel

RBF is sklearn library function.

Formula,

$$K(a, b) = \gamma e^{-\gamma \|a - b\|^2}$$

gamma (i.e.  $\gamma = 0.8$  as given in question)

\*  $\|a - b\|^2$  is the squared distance between 2 features (vectors)

\*  $\gamma$  is scalar and defines the influence



## Inference:

In today's exam, I performed SVM(Rbf) on items.csv dataset to classify the data in the dataset with help of the attributes in the dataset. The Model used is Support Vector regression and radial basis function Kernel with  $\gamma = 0.8$ .

Prediction values were obtained and confusion matrix value were displayed. Accuracy of SVM = 0.875.