01-11-2021 MACHINE LEARNING SACHIN RAGHUL T

OBS - 09 2019103573

Aim :-

To implement the naive Bayes and KNN algorithm.

Naive Bayes Algorithm :-

* Separate the data set into different classes and find the probability of data by each class.
* Find the mean, standard deviation for each column in the dataset.
* Split the dataset by class and calculate statistics for each row.
* calculate the Gaussian probability distribution for x using the function,

$$P(x) = \frac{1}{\sqrt{2\pi\sigma}} e^{\left(\frac{-(x-\mu)}{2\sigma^2}\right)}$$

* Now calculate the probability of new data belonging to each class for every given row.

KNN Algorithm :-

* Select the number of neighbour, K to be considered in the algorithm.
* Calculate the Euclidean distance of K number of neighbours using the distance formula,

$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

* Take the k nearest neighbours, count the no. of data points in each category. (As per previous steps)

* Assign the new points to that category for which the number of neighbours is maximum.

* Repeat the previous steps for all points.