

Assignment No. 1

Title:

Linear Regression

Algorithm :

- First we have to install libraries such as pandas,matplotlib,scikit-learn using pip3.Import this libraries in to the python program.
- Read dataset from the location where the dataset of correlation of the number of hours spent driving with the risk is stored.
- Import the Linear Regression and Create object of it.
- Now fit the values of X andY to create a model.

Machine Learning Assignments

- Then predict the value(Risk score) for X using predict function.
- Then calculate mean squared error and accuracy to check the performance of the model using mean_squared_error and score function respectively.
- Print the equation of best fit line.

Assignment No. 2

Title:

Decision Tree Classifier.

Algorithm

1. Import the Required Packages
2. Read Given Dataset
3. Perform the label Encoding Mean Convert String value into Numerical values
4. Import and Apply Decision Tree Classifier
5. Predict value for the given Expression like [Age < 21, Income = Low, Gender = Female, Marital Status = Married]? In encoding Values [1,1,0,0]
6. Import the packages for Create Decision Tree.
7. Check the Decision Tree Created based on Expression.

Assignment No. 3

Title:

K-NN Classification

Algorithm:

1. Load the data
2. Initialize the value of k

3. For getting the predicted class, iterate from 1 to total number of training data point.
- Calculate the distance between test data and each row of training data. Here we will use Euclidean distance as our distance metric since it's the most popular method. The other metrics that can be used are Chebyshev, cosine, etc.
 - Sort the calculated distances in ascending order based on distance values
 - Get top k rows from the sorted array
 - Get the most frequent class of these rows
 - Return the predicted class

Assignment No. 4

Title:

K-means Clustering.

Algorithm:

Specify number of clusters K.

1. Initialize centroids by first shuffling the dataset and then randomly selecting K data points for the centroids without replacement.
 2. Assign each data point to the closest cluster (centroid).
 3. Compute and place new centroid of each cluster.
 4. Reassign each point to new closest centroid.
- If any reassignments goto step 4 else finish.