KNN

K NEAREST NEIGHBOURS

The k-nearest neighbors (KNN) algorithm is a simple, easy-to-implement supervised machine learning algorithm that can be used to solve both classification and regression problems.
K-NN algorithm assumes the similarity between the new case/data and available cases and put the new case into the category that is most similar to the available categories.

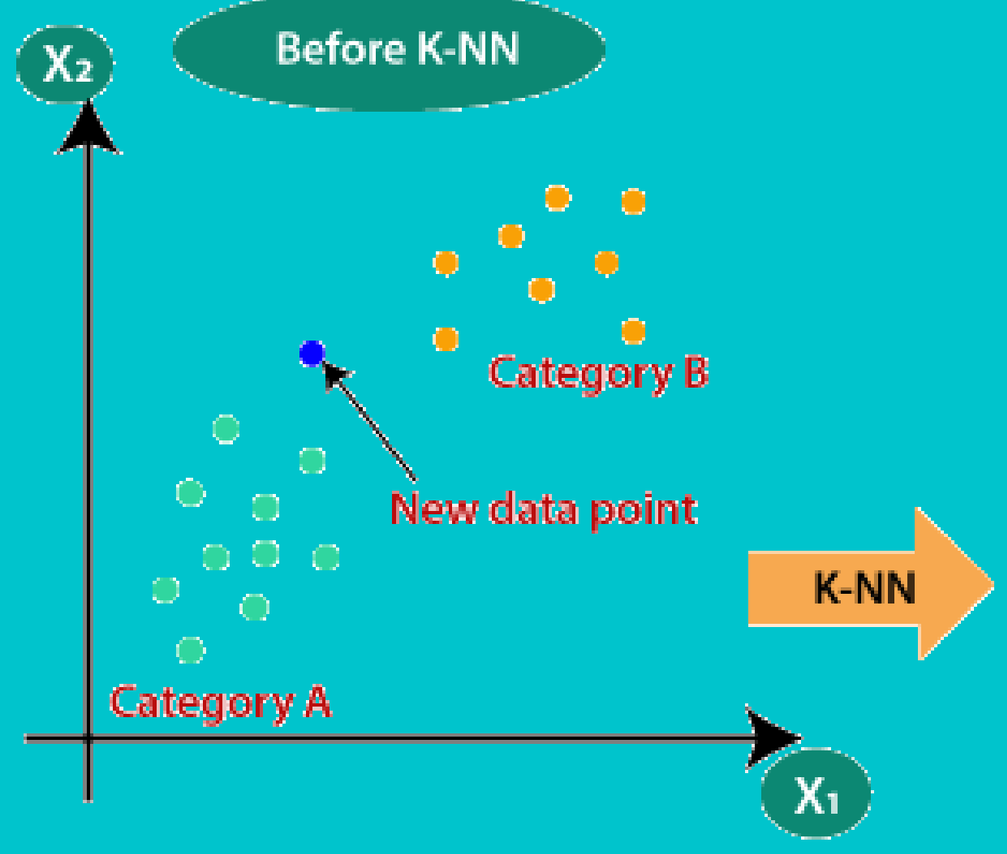
DISADVANTAGES

- The algorithm gets significantly slower as the number of examples and/or predictors/independent variables increase.

ADVANTAGES

- The algorithm is simple and easy to implement.
- There’s no need to build a model, tune several parameters, or make additional assumptions.
- The algorithm is versatile. It can be used for classification, regression, and search.

EXAMPLE



- The KNN algorithm assumes that similar things exist in close proximity. In other words, similar things are near to each other.

ALGORITHM

- 1: Select the number K of the neighbors
- 2: Calculate the Euclidean distance of K number of neighbors
- 3: Take the K nearest neighbors as per the calculated Euclidean distance.
- 4: Among these k neighbors, count the number of the data points in each category.
- 5: Assign the new data points to that category for which the number of the neighbor is maximum.
- 6: Our model is ready.

By:-Naman Sukhwani
0827CS181126