



# KNN K NEAREST NEIGHBOUR

classification and regression  
ALGORITHM



# KNN INTRO

NN is a very simple easy to understand, versatile and most used machine learning algorithm. KNN is a **non-parametric** and **lazy learning** algorithm.

**Non-Parametric:** There is no assumption for underlying data distribution, the model structure determined from the dataset.

**Lazy Learner:** Lazy learner means it does not need any training data points for model creation.

# HOW KNN WORKS ?

In KNN, K is the number of nearest neighbour. The number of neighbour is the core deciding factor. K is generally an odd number if the number of classes is 2. If  $K = 1$  leads to overfitting as each data point will act as a cluster.

**Note:** All the training data used in testing phase, This makes training faster and testing phase slower and costlier.

**Costlier:** It takes lot of time and storeage, In worst case, Knn needs more time to scan all data points, It require more time and also more memory for storing training data.

