Inferences on K-NN

The given distribution is a well balanced R2 co-ordinates with dimilar number of samples on either side of the Y-axis.

As a result, unless the test-sample is extremely close to Y-axis and near origin, the number of neighbors doesn't matter much

EXAMPLE :

Consider [1e-5,0.1] for 300 nearest neighbors gives a label -1 where as looking at the dataset, the trend is clear that the labels are assigned depending on where they are on the R2 plane

Also, an interesting observation is that [0,0] or whenever the probabilty of two classes is equal for any sample, it has been assigned to -1 as a hard rule