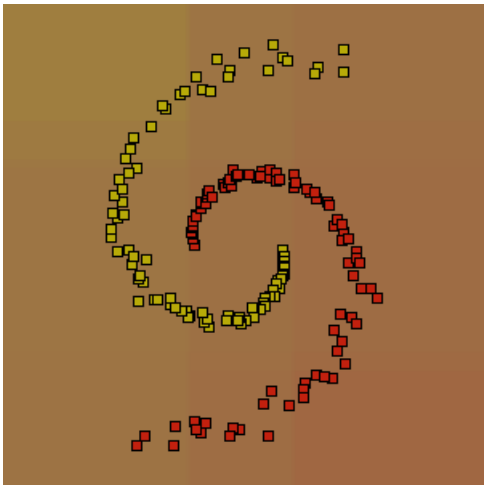
Classification problem for experiment-5:

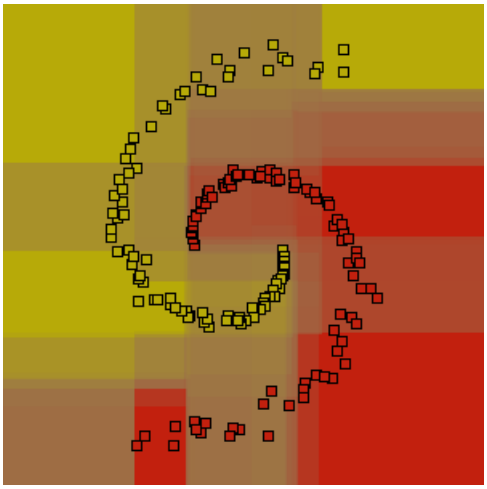
a)Varying tree depth(D).

Two classes:

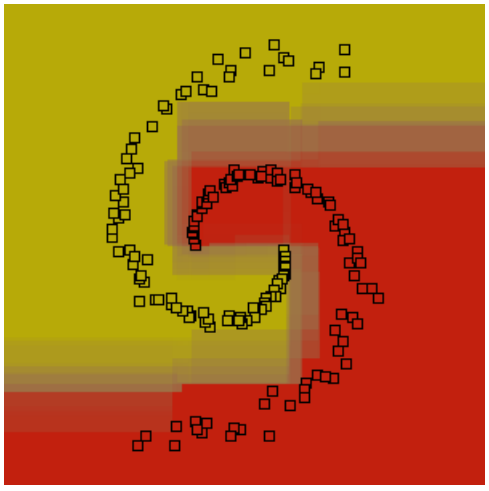
D = 2



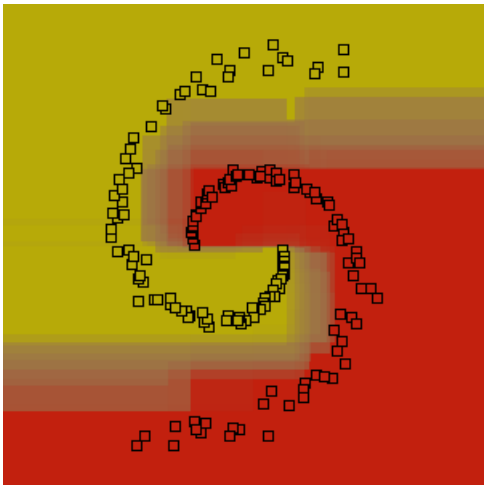
D = 5



D = 2



D = 20

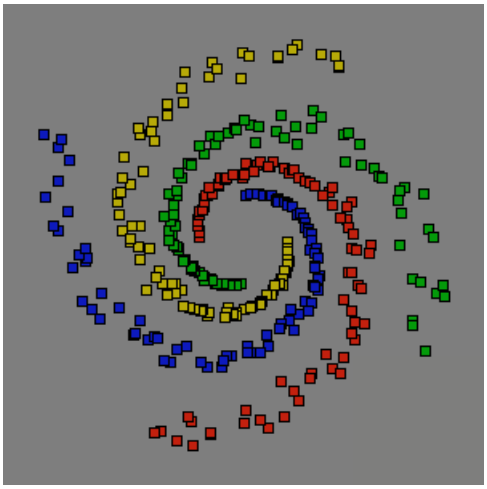


On increasing tree depth, the performance of the forest improves as shorter trees(with lesser D) give less precise information as compared to longer trees.

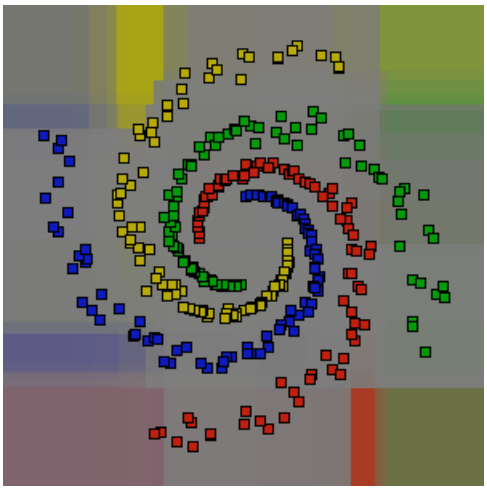
a)Varying tree depth(D).

Four Classes:

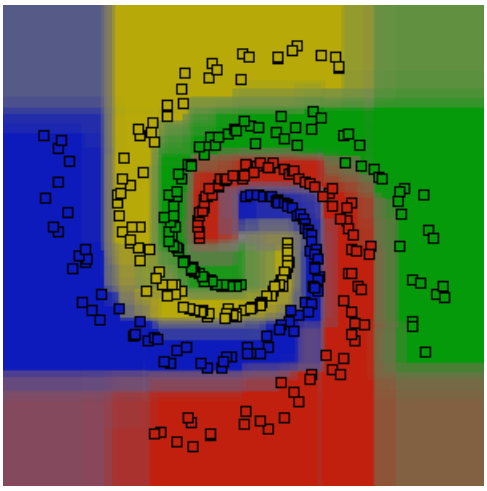
D = 2



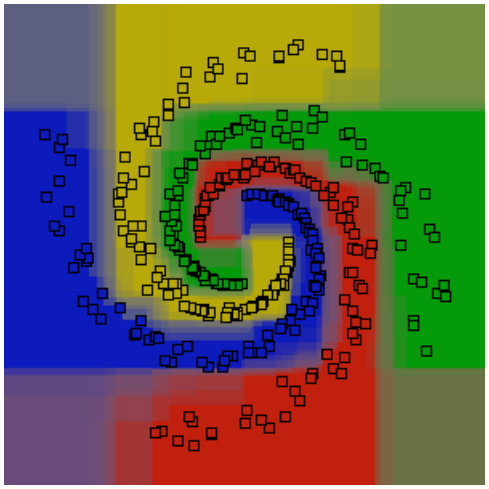
D = 5



D = 10



D = 20

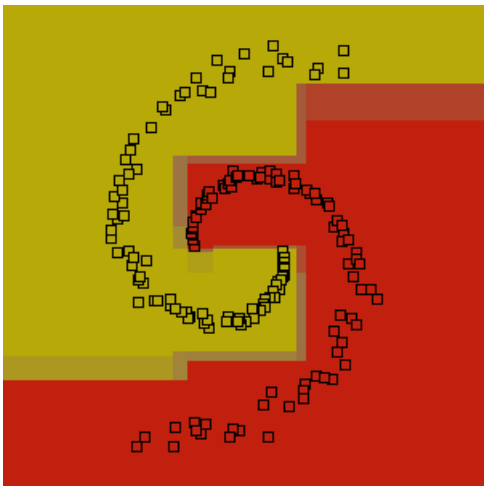


Similarly here, the performance of the model improves significantly upto D = 10 and then slowly reaches convergence.

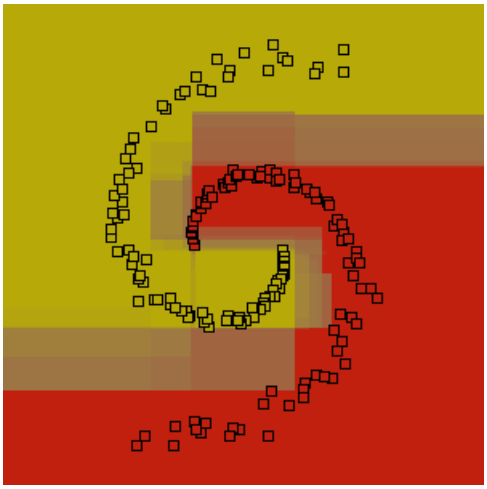
b)Varying number of trees(T) in the forest.

Two Classes:

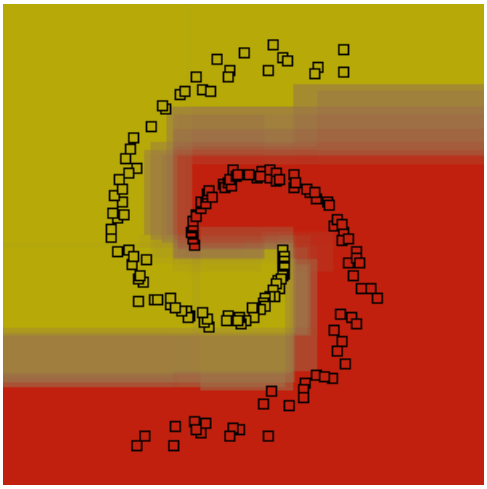
T = 2



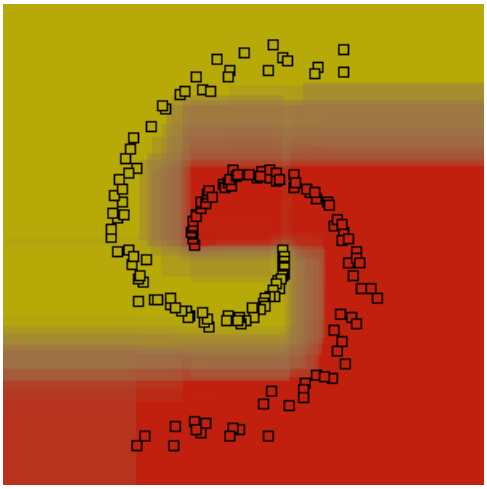
T = 5



T = 10



T = 20

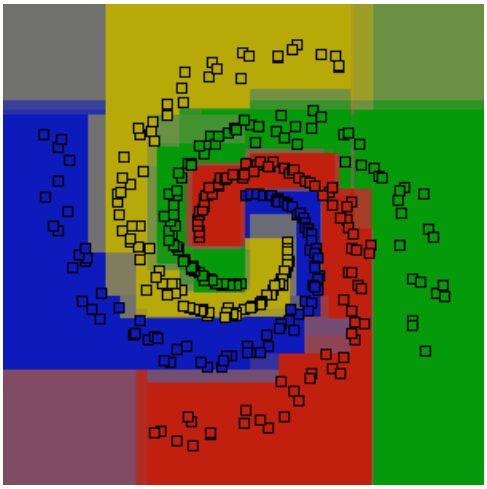


Increasing the number of trees seems to improve the accuracy of the model.

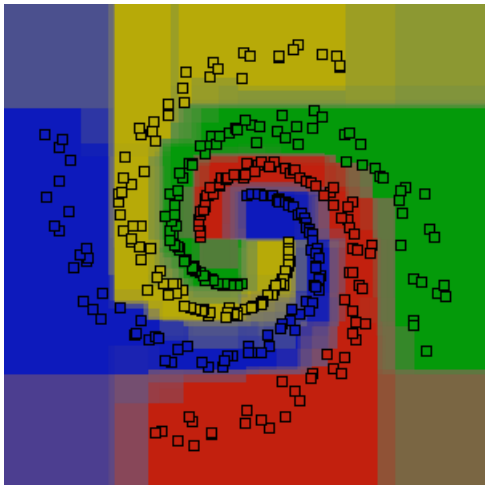
b)Varying number of trees(T) in the forest.

Four Classes:

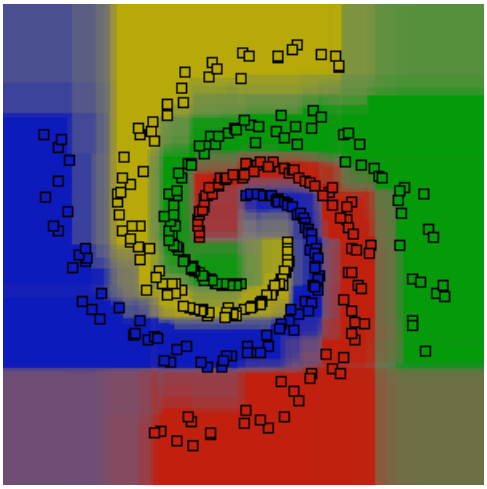
T = 2



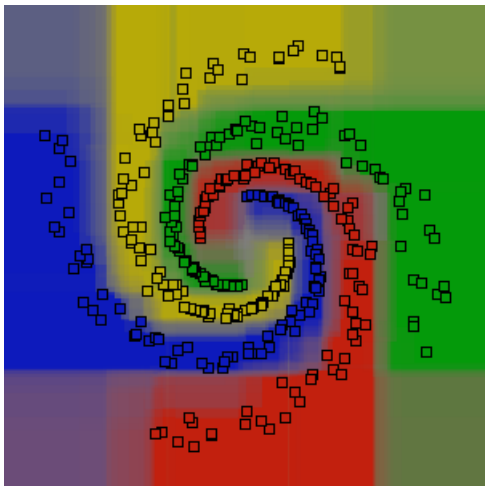
T = 5



T = 10



T = 20

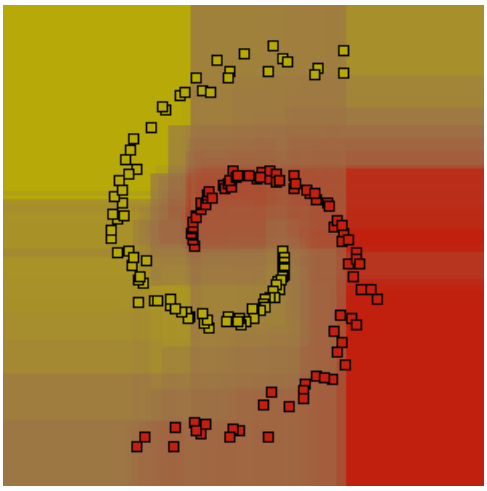


Increasing the number of trees has improved the accuracy of the model here as well.

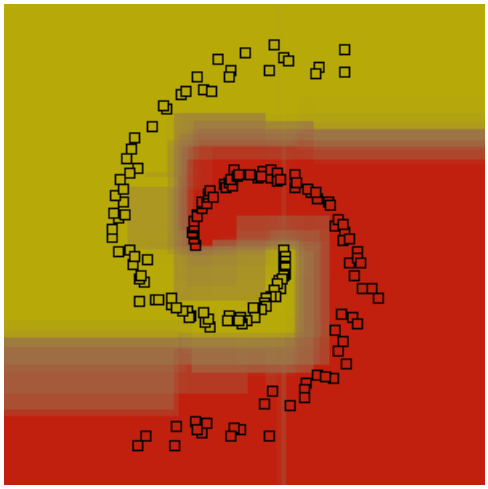
c)Varying number of candidate feature response functions(F) per split node.

Two Classes:

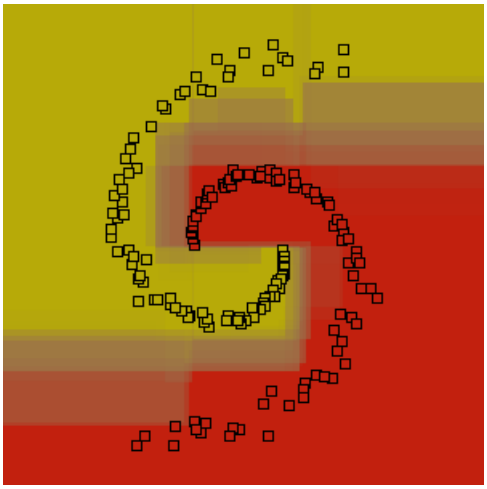
F = 2



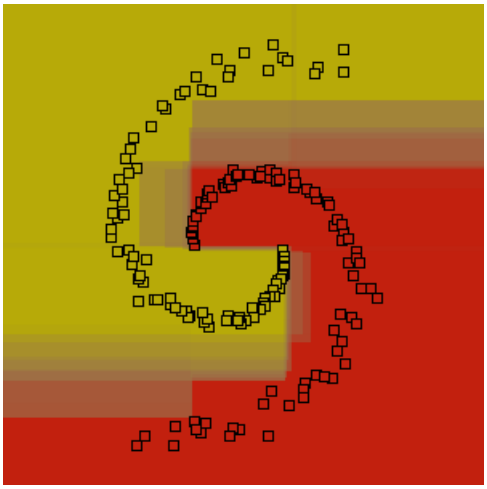
F = 5



F = 10



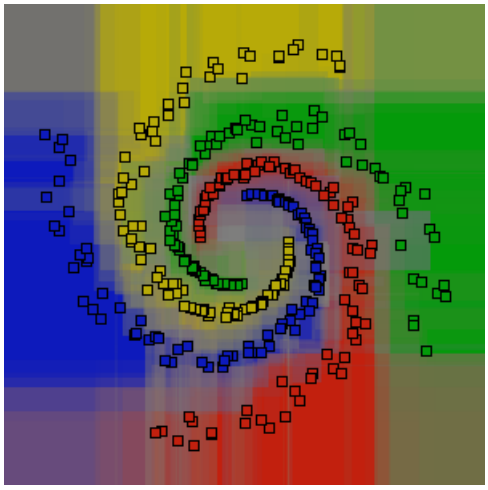
F = 50



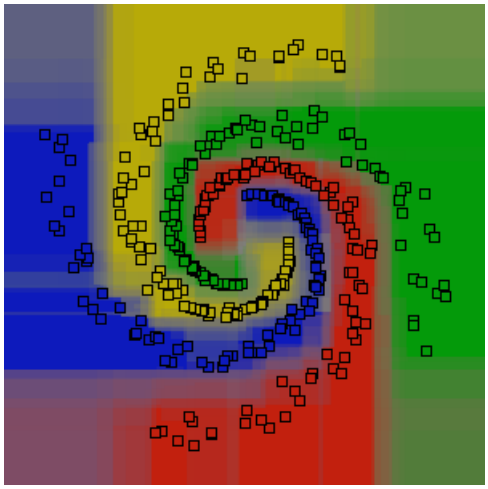
c)Varying number of candidate feature response functions(F) per split node.

Four Classes:

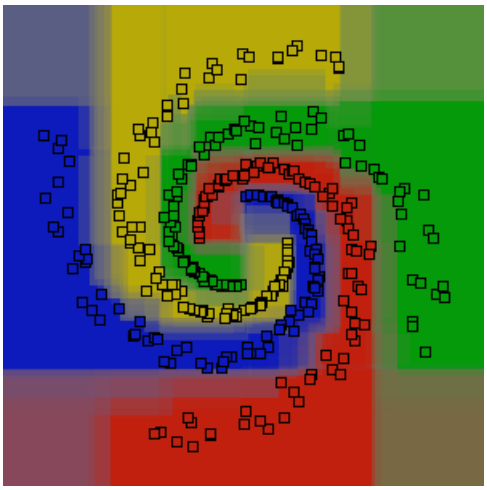
F = 2



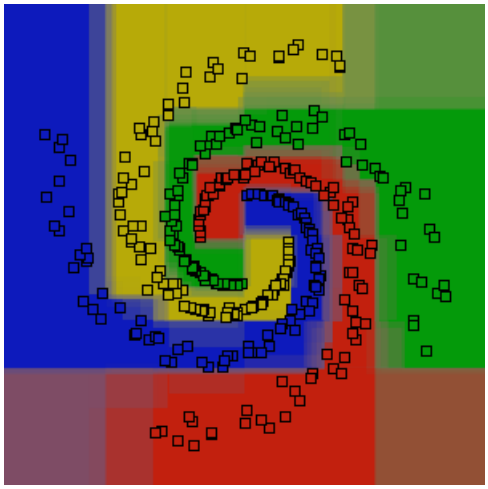
F = 5



F = 20



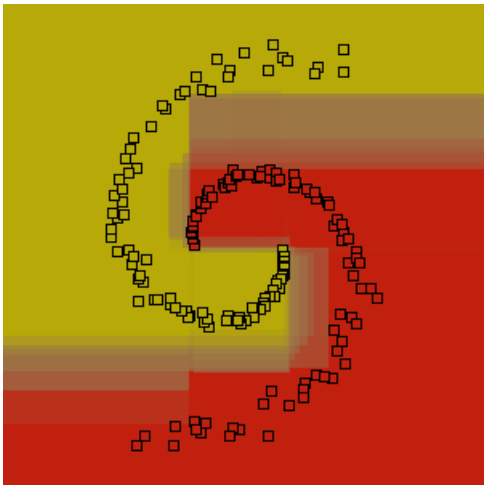
F = 50



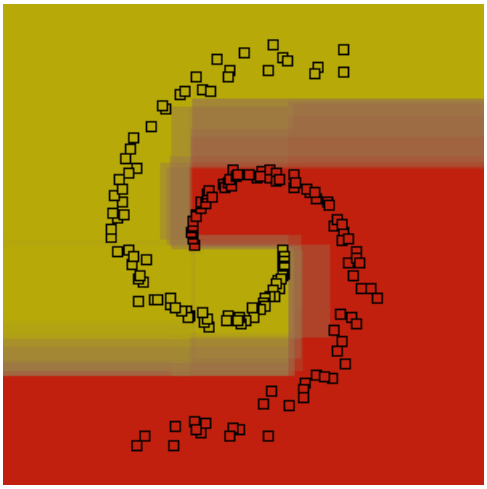
d)Varying number of candidate thresholds per feature response(L) function

Two Classes:

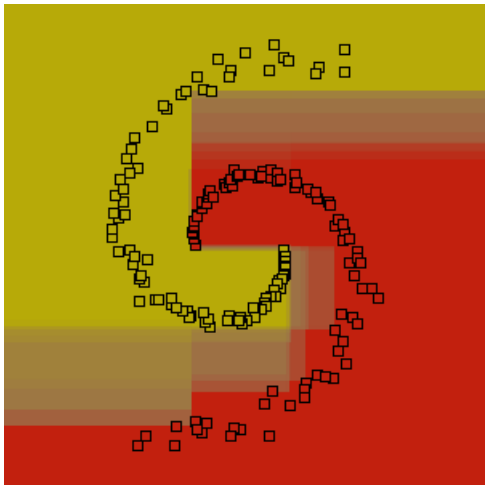
L = 2



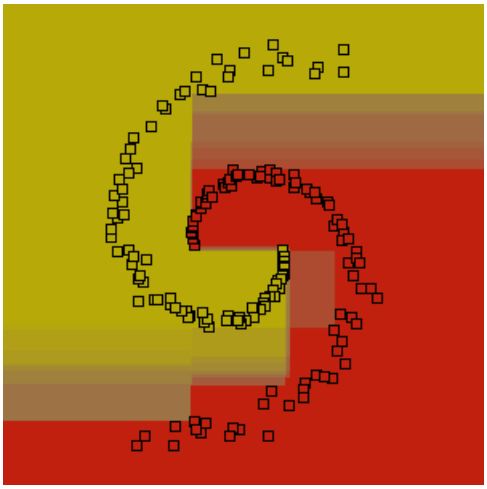
L = 5



L = 20



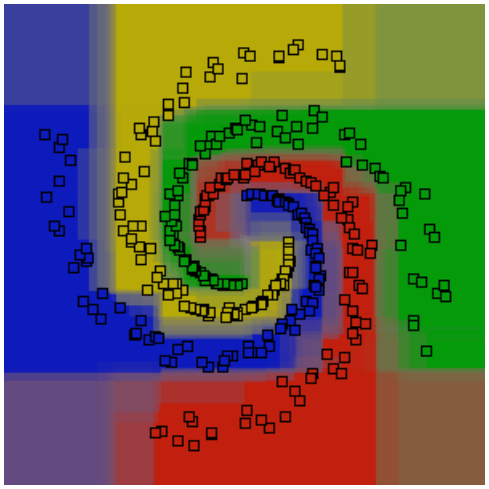
L = 50



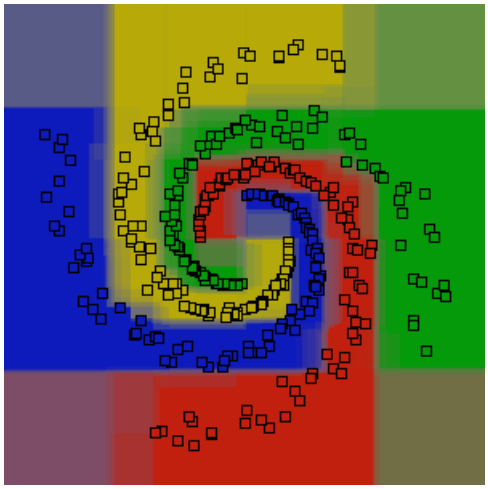
d)Varying number of candidate thresholds per feature response(L) function

Four Classes:

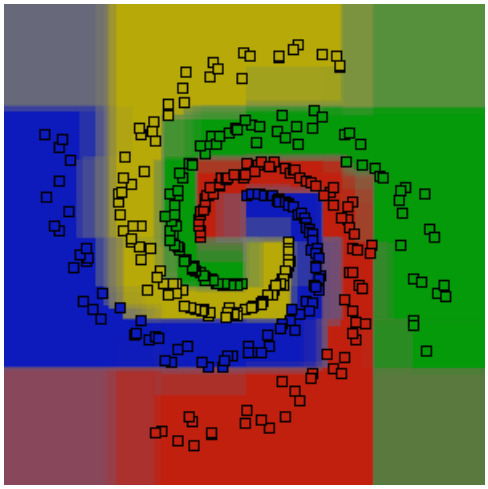
L = 2



L = 5



L = 20



L = 50