

- max_features

The max_features hyperparameter controls the maximum number of features considered when looking to make the best/most optimal split at a node along the tree. When using max_features, a large value may cause the decision tree to overfit as more features allow for more complex patterns within the nodes and branches along the tree. This may result in the tree being too specific to the training data set.

- max_leaf_nodes

The max_leaf_nodes hyperparameter controls the maximum number of leaf nodes that a decision is able to have. A large value for the max_leaf_nodes will increase the overfitting characteristic as essentially, the tree is able to grow bigger and bigger allow for more specific divisions along the tree itself, catering specifically towards the training data set.