﻿Accuracy = 0.538

Decision Tree Classification Model:

DecisionTreeModel classifier of depth 5 with 63 nodes

If (feature 0 <= 41.0)

If (feature 4 <= 33.0)

If (feature 4 <= 31.0)

If (feature 4 <= 23.0)

If (feature 4 <= 21.0)

Predict: 5.0

Else (feature 4 > 21.0)

Predict: 3.0

Else (feature 4 > 23.0)

If (feature 3 <= 533.0)

Predict: 2.0

Else (feature 3 > 533.0)

Predict: 5.0

Else (feature 4 > 31.0)

If (feature 3 <= 431.0)

If (feature 0 <= 28.0)

Predict: 3.0

Else (feature 0 > 28.0)

Predict: 5.0

Else (feature 3 > 431.0)

If (feature 6 <= 1141.0)

Predict: 5.0

Else (feature 6 > 1141.0)

Predict: 0.0

Else (feature 4 > 33.0)

If (feature 0 <= 27.0)

If (feature 7 <= 4.0)

If (feature 3 <= 611.0)

Predict: 5.0

Else (feature 3 > 611.0)

Predict: 2.0

Else (feature 7 > 4.0)

If (feature 3 <= 244.0)

Predict: 2.0

Else (feature 3 > 244.0)

Predict: 2.0

Else (feature 0 > 27.0)

If (feature 4 <= 37.0)

If (feature 6 <= 1166.0)

Predict: 5.0

Else (feature 6 > 1166.0)

Predict: 2.0

Else (feature 4 > 37.0)

If (feature 0 <= 40.0)

Predict: 5.0

Else (feature 0 > 40.0)

Predict: 2.0

Else (feature 0 > 41.0)

If (feature 7 <= 4.0)

If (feature 4 <= 28.0)

If (feature 4 <= 25.0)

If (feature 6 <= 630.0)

Predict: 5.0

Else (feature 6 > 630.0)

Predict: 5.0

Else (feature 4 > 25.0)

If (feature 2 <= 11.0)

Predict: 2.0

Else (feature 2 > 11.0)

Predict: 5.0

Else (feature 4 > 28.0)

If (feature 0 <= 47.0)

If (feature 3 <= 244.0)

Predict: 2.0

Else (feature 3 > 244.0)

Predict: 5.0

Else (feature 0 > 47.0)

If (feature 3 <= 1134.0)

Predict: 5.0

Else (feature 3 > 1134.0)

Predict: 5.0

Else (feature 7 > 4.0)

If (feature 0 <= 45.0)

If (feature 2 <= 11.0)

If (feature 2 <= 2.0)

Predict: 5.0

Else (feature 2 > 2.0)

Predict: 5.0

Else (feature 2 > 11.0)

If (feature 4 <= 23.0)

Predict: 3.0

Else (feature 4 > 23.0)

Predict: 5.0

Else (feature 0 > 45.0)

If (feature 7 <= 5.0)

If (feature 3 <= 317.0)

Predict: 5.0

Else (feature 3 > 317.0)

Predict: 5.0

Else (feature 7 > 5.0)

If (feature 5 <= 1.0)

Predict: 5.0

Else (feature 5 > 1.0)

Predict: 2.0

Accuracy = 0.528

Random Forest Classification Model:

TreeEnsembleModel classifier with 10 trees

Tree 0:

If (feature 4 <= 36.0)

If (feature 7 <= 1.0)

If (feature 1 <= 0.0)

If (feature 0 <= 28.0)

Predict: 3.0

Else (feature 0 > 28.0)

Predict: 2.0

Else (feature 1 > 0.0)

If (feature 3 <= 501.0)

Predict: 5.0

Else (feature 3 > 501.0)

Predict: 5.0

Else (feature 7 > 1.0)

If (feature 5 <= 1.0)

If (feature 0 <= 45.0)

Predict: 5.0

Else (feature 0 > 45.0)

Predict: 5.0

Else (feature 5 > 1.0)

If (feature 6 <= 666.0)

Predict: 2.0

Else (feature 6 > 666.0)

Predict: 2.0

Else (feature 4 > 36.0)

If (feature 4 <= 41.0)

If (feature 7 <= 4.0)

If (feature 5 <= 1.0)

Predict: 5.0

Else (feature 5 > 1.0)

Predict: 0.0

Else (feature 7 > 4.0)

If (feature 6 <= 40.0)

Predict: 2.0

Else (feature 6 > 40.0)

Predict: 5.0

Else (feature 4 > 41.0)

If (feature 3 <= 317.0)

If (feature 0 <= 27.0)

Predict: 2.0

Else (feature 0 > 27.0)

Predict: 5.0

Else (feature 3 > 317.0)

If (feature 6 <= 971.0)

Predict: 5.0

Else (feature 6 > 971.0)

Predict: 5.0

Tree 1:

If (feature 4 <= 28.0)

If (feature 4 <= 21.0)

If (feature 4 <= 11.0)

If (feature 0 <= 45.0)

Predict: 5.0

Else (feature 0 > 45.0)

Predict: 5.0

Else (feature 4 > 11.0)

If (feature 0 <= 41.0)

Predict: 2.0

Else (feature 0 > 41.0)

Predict: 5.0

Else (feature 4 > 21.0)

If (feature 4 <= 23.0)

If (feature 3 <= 611.0)

Predict: 5.0

Else (feature 3 > 611.0)

Predict: 3.0

Else (feature 4 > 23.0)

If (feature 0 <= 26.0)

Predict: 2.0

Else (feature 0 > 26.0)

Predict: 5.0

Else (feature 4 > 28.0)

If (feature 0 <= 41.0)

If (feature 3 <= 244.0)

If (feature 7 <= 2.0)

Predict: 5.0

Else (feature 7 > 2.0)

Predict: 2.0

Else (feature 3 > 244.0)

If (feature 4 <= 33.0)

Predict: 5.0

Else (feature 4 > 33.0)

Predict: 5.0

Else (feature 0 > 41.0)

If (feature 3 <= 1089.0)

If (feature 6 <= 698.0)

Predict: 5.0

Else (feature 6 > 698.0)

Predict: 5.0

Else (feature 3 > 1089.0)

If (feature 4 <= 47.0)

Predict: 2.0

Else (feature 4 > 47.0)

Predict: 5.0

Tree 2:

If (feature 4 <= 33.0)

If (feature 4 <= 21.0)

If (feature 0 <= 40.0)

If (feature 1 <= 0.0)

Predict: 2.0

Else (feature 1 > 0.0)

Predict: 5.0

Else (feature 0 > 40.0)

If (feature 3 <= 277.0)

Predict: 5.0

Else (feature 3 > 277.0)

Predict: 5.0

Else (feature 4 > 21.0)

If (feature 4 <= 23.0)

If (feature 0 <= 51.0)

Predict: 3.0

Else (feature 0 > 51.0)

Predict: 5.0

Else (feature 4 > 23.0)

If (feature 3 <= 828.0)

Predict: 5.0

Else (feature 3 > 828.0)

Predict: 5.0

Else (feature 4 > 33.0)

If (feature 7 <= 4.0)

If (feature 5 <= 2.0)

If (feature 6 <= 971.0)

Predict: 5.0

Else (feature 6 > 971.0)

Predict: 5.0

Else (feature 5 > 2.0)

If (feature 3 <= 900.0)

Predict: 2.0

Else (feature 3 > 900.0)

Predict: 5.0

Else (feature 7 > 4.0)

If (feature 3 <= 1134.0)

If (feature 0 <= 29.0)

Predict: 2.0

Else (feature 0 > 29.0)

Predict: 5.0

Else (feature 3 > 1134.0)

If (feature 6 <= 935.0)

Predict: 2.0

Else (feature 6 > 935.0)

Predict: 5.0

Tree 3:

If (feature 0 <= 41.0)

If (feature 7 <= 4.0)

If (feature 4 <= 28.0)

If (feature 1 <= 0.0)

Predict: 5.0

Else (feature 1 > 0.0)

Predict: 5.0

Else (feature 4 > 28.0)

If (feature 4 <= 33.0)

Predict: 5.0

Else (feature 4 > 33.0)

Predict: 5.0

Else (feature 7 > 4.0)

If (feature 0 <= 21.0)

If (feature 6 <= 828.0)

Predict: 2.0

Else (feature 6 > 828.0)

Predict: 2.0

Else (feature 0 > 21.0)

If (feature 3 <= 244.0)

Predict: 2.0

Else (feature 3 > 244.0)

Predict: 5.0

Else (feature 0 > 41.0)

If (feature 7 <= 3.0)

If (feature 5 <= 3.0)

If (feature 5 <= 0.0)

Predict: 5.0

Else (feature 5 > 0.0)

Predict: 2.0

Else (feature 5 > 3.0)

If (feature 3 <= 36.0)

Predict: 2.0

Else (feature 3 > 36.0)

Predict: 5.0

Else (feature 7 > 3.0)

If (feature 5 <= 0.0)

If (feature 3 <= 36.0)

Predict: 3.0

Else (feature 3 > 36.0)

Predict: 5.0

Else (feature 5 > 0.0)

If (feature 7 <= 5.0)

Predict: 5.0

Else (feature 7 > 5.0)

Predict: 2.0

Tree 4:

If (feature 4 <= 23.0)

If (feature 4 <= 21.0)

If (feature 4 <= 11.0)

If (feature 3 <= 354.0)

Predict: 5.0

Else (feature 3 > 354.0)

Predict: 5.0

Else (feature 4 > 11.0)

If (feature 0 <= 43.0)

Predict: 2.0

Else (feature 0 > 43.0)

Predict: 5.0

Else (feature 4 > 21.0)

If (feature 0 <= 56.0)

If (feature 6 <= 768.0)

Predict: 3.0

Else (feature 6 > 768.0)

Predict: 3.0

Else (feature 0 > 56.0)

If (feature 7 <= 5.0)

Predict: 5.0

Else (feature 7 > 5.0)

Predict: 0.0

Else (feature 4 > 23.0)

If (feature 6 <= 698.0)

If (feature 2 <= 11.0)

If (feature 7 <= 5.0)

Predict: 5.0

Else (feature 7 > 5.0)

Predict: 5.0

Else (feature 2 > 11.0)

Predict: 5.0

Else (feature 6 > 698.0)

If (feature 0 <= 29.0)

If (feature 7 <= 4.0)

Predict: 5.0

Else (feature 7 > 4.0)

Predict: 2.0

Else (feature 0 > 29.0)

If (feature 0 <= 49.0)

Predict: 5.0

Else (feature 0 > 49.0)

Predict: 5.0

Tree 5:

If (feature 0 <= 45.0)

If (feature 4 <= 23.0)

If (feature 6 <= 768.0)

If (feature 7 <= 5.0)

Predict: 5.0

Else (feature 7 > 5.0)

Predict: 5.0

Else (feature 6 > 768.0)

If (feature 4 <= 6.0)

Predict: 2.0

Else (feature 4 > 6.0)

Predict: 3.0

Else (feature 4 > 23.0)

If (feature 2 <= 6.0)

If (feature 6 <= 738.0)

Predict: 5.0

Else (feature 6 > 738.0)

Predict: 5.0

Else (feature 2 > 6.0)

If (feature 5 <= 3.0)

Predict: 2.0

Else (feature 5 > 3.0)

Predict: 5.0

Else (feature 0 > 45.0)

If (feature 7 <= 5.0)

If (feature 7 <= 4.0)

If (feature 7 <= 3.0)

Predict: 5.0

Else (feature 7 > 3.0)

Predict: 2.0

Else (feature 7 > 4.0)

If (feature 6 <= 258.0)

Predict: 5.0

Else (feature 6 > 258.0)

Predict: 5.0

Else (feature 7 > 5.0)

If (feature 6 <= 1141.0)

If (feature 2 <= 3.0)

Predict: 5.0

Else (feature 2 > 3.0)

Predict: 5.0

Else (feature 6 > 1141.0)

Predict: 2.0

Tree 6:

If (feature 5 <= 3.0)

If (feature 4 <= 36.0)

If (feature 7 <= 1.0)

If (feature 0 <= 29.0)

Predict: 2.0

Else (feature 0 > 29.0)

Predict: 5.0

Else (feature 7 > 1.0)

If (feature 7 <= 2.0)

Predict: 5.0

Else (feature 7 > 2.0)

Predict: 5.0

Else (feature 4 > 36.0)

If (feature 3 <= 244.0)

If (feature 3 <= 106.0)

Predict: 5.0

Else (feature 3 > 106.0)

Predict: 2.0

Else (feature 3 > 244.0)

If (feature 3 <= 1134.0)

Predict: 5.0

Else (feature 3 > 1134.0)

Predict: 5.0

Else (feature 5 > 3.0)

If (feature 3 <= 36.0)

If (feature 6 <= 738.0)

Predict: 2.0

Else (feature 6 > 738.0)

Predict: 3.0

Else (feature 3 > 36.0)

If (feature 6 <= 1026.0)

If (feature 6 <= 808.0)

Predict: 5.0

Else (feature 6 > 808.0)

Predict: 5.0

Else (feature 6 > 1026.0)

If (feature 7 <= 1.0)

Predict: 2.0

Else (feature 7 > 1.0)

Predict: 5.0

Tree 7:

If (feature 1 <= 0.0)

If (feature 3 <= 148.0)

If (feature 0 <= 29.0)

If (feature 6 <= 127.0)

Predict: 5.0

Else (feature 6 > 127.0)

Predict: 2.0

Else (feature 0 > 29.0)

If (feature 5 <= 3.0)

Predict: 5.0

Else (feature 5 > 3.0)

Predict: 2.0

Else (feature 3 > 148.0)

If (feature 4 <= 41.0)

If (feature 7 <= 5.0)

Predict: 5.0

Else (feature 7 > 5.0)

Predict: 5.0

Else (feature 4 > 41.0)

If (feature 6 <= 971.0)

Predict: 5.0

Else (feature 6 > 971.0)

Predict: 5.0

Else (feature 1 > 0.0)

If (feature 7 <= 1.0)

If (feature 4 <= 9.0)

If (feature 4 <= 6.0)

Predict: 5.0

Else (feature 4 > 6.0)

Predict: 0.0

Else (feature 4 > 9.0)

If (feature 6 <= 768.0)

Predict: 5.0

Else (feature 6 > 768.0)

Predict: 5.0

Else (feature 7 > 1.0)

If (feature 0 <= 32.0)

If (feature 3 <= 787.0)

Predict: 5.0

Else (feature 3 > 787.0)

Predict: 2.0

Else (feature 0 > 32.0)

If (feature 3 <= 1019.0)

Predict: 5.0

Else (feature 3 > 1019.0)

Predict: 5.0

Tree 8:

If (feature 4 <= 23.0)

If (feature 7 <= 1.0)

If (feature 5 <= 3.0)

If (feature 1 <= 0.0)

Predict: 2.0

Else (feature 1 > 0.0)

Predict: 5.0

Else (feature 5 > 3.0)

If (feature 6 <= 768.0)

Predict: 5.0

Else (feature 6 > 768.0)

Predict: 3.0

Else (feature 7 > 1.0)

If (feature 0 <= 49.0)

If (feature 4 <= 22.0)

Predict: 5.0

Else (feature 4 > 22.0)

Predict: 3.0

Else (feature 0 > 49.0)

If (feature 4 <= 2.0)

Predict: 5.0

Else (feature 4 > 2.0)

Predict: 5.0

Else (feature 4 > 23.0)

If (feature 4 <= 47.0)

If (feature 0 <= 29.0)

If (feature 7 <= 4.0)

Predict: 5.0

Else (feature 7 > 4.0)

Predict: 2.0

Else (feature 0 > 29.0)

If (feature 7 <= 0.0)

Predict: 2.0

Else (feature 7 > 0.0)

Predict: 5.0

Else (feature 4 > 47.0)

If (feature 0 <= 19.0)

If (feature 7 <= 5.0)

Predict: 6.0

Else (feature 7 > 5.0)

Predict: 5.0

Else (feature 0 > 19.0)

If (feature 6 <= 499.0)

Predict: 5.0

Else (feature 6 > 499.0)

Predict: 5.0

Tree 9:

If (feature 4 <= 28.0)

If (feature 4 <= 21.0)

If (feature 0 <= 41.0)

If (feature 3 <= 1055.0)

Predict: 5.0

Else (feature 3 > 1055.0)

Predict: 5.0

Else (feature 0 > 41.0)

If (feature 3 <= 277.0)

Predict: 5.0

Else (feature 3 > 277.0)

Predict: 5.0

Else (feature 4 > 21.0)

If (feature 0 <= 49.0)

If (feature 3 <= 501.0)

Predict: 5.0

Else (feature 3 > 501.0)

Predict: 3.0

Else (feature 0 > 49.0)

If (feature 5 <= 0.0)

Predict: 5.0

Else (feature 5 > 0.0)

Predict: 2.0

Else (feature 4 > 28.0)

If (feature 0 <= 29.0)

If (feature 7 <= 2.0)

If (feature 5 <= 1.0)

Predict: 5.0

Else (feature 5 > 1.0)

Predict: 5.0

Else (feature 7 > 2.0)

If (feature 2 <= 10.0)

Predict: 2.0

Else (feature 2 > 10.0)

Predict: 5.0

Else (feature 0 > 29.0)

If (feature 3 <= 431.0)

If (feature 0 <= 38.0)

Predict: 5.0

Else (feature 0 > 38.0)

Predict: 5.0

Else (feature 3 > 431.0)

If (feature 2 <= 6.0)

Predict: 5.0

Else (feature 2 > 6.0)

Predict: 5.0

Naive Bayes

Accuracy = 0.326

Accuracy = 0.0

Learned classification GBT model:

TreeEnsembleModel classifier with 100 trees