Algorithm 1 Random Forest Classification Algorithm

Require: Training dataset D, number of trees n_trees, maximum number of features $max\_features$

Ensure: Random forest classification model

1: Initialize forest as an empty set
2: **for** $i = 1$ **to** n_trees **do**
3:      Obtain training subset D_i from D using bootstrap sampling
4:      Initialize root node of decision tree T_i
5:      **while** stopping criterion is not met **do**
6:         Select the best splitting feature from the subset of features at the node
7:         Split the node according to the selected feature and threshold
8:      **end while**
9:      Add the constructed decision tree T_i to the forest
10: **end for**
11: **return** Random forest