## 16. RandomForest vs DecisionTrees..

**Is a random forest a better model than a decision tree? Explain.**

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﻿hint:

Yes. Because Random Forests (RF) is an ensemble bagging algorithm composed of many individual decision trees. When it’s expensive or infeasible to collect many samples (which usually is the case), we re-sample many times from the only sample we have (with replacement) ﻿and construct a sampling distribution in Bagging method. In addition to taking the random subset of data, as in bagging, RF uses a random subset of features rather than using all features to grow trees. RF reduces the variance of individual trees by randomly selecting (and thus de-correlating) many features and data from the dataset. Also it takes many weak decision trees to make a strong learner. Because of these, Random forests are more accurate, more robust, and less prone to overfitting.

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Key words: more accurate, less overfitting, multi decision trees