**Random Forest Intuition**

Ensemble Learning –

* Ensemble learning is when you take multiple machine learning algorithms and put them together to build one bigger machine learning algorithm.
* So, that machine learning algorithm is using or leveraging many different machine learning algorithms (they can also be the same machine learning algorithm).
* Random forest is one of the ensembles learning algorithm which combines lots of decision tree methods.
* Instead of running decision tree algorithm once, we will run it multiple times, and that will give us a random forest.

Steps for Random Forest –

**Step 1:** Pick random K data points from the training set.

**Step 2:** Build a decision tree associated to those K data points. Instead of building a decision tree to all the points you have in your training set, you build a decision tree based on some of the points of the training set.

**Step 3:** Choose the number of trees you want to build and repeat steps 1 and 2.

**Step 4:** For a new data point, make each one of your trees pick the category to which the data point belongs, and assign the data point to the category that wins the majority votes.

* So, you start off with one tree and then build multiple trees, and each one of the trees is built on randomly selected sub-set of your data.
* Not all the trees build might be ideal, but overall, on an average they can perform very well.