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Grade received 100% **Latest Submission Grade** 100% **To pass** 80% or higher

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Quiz

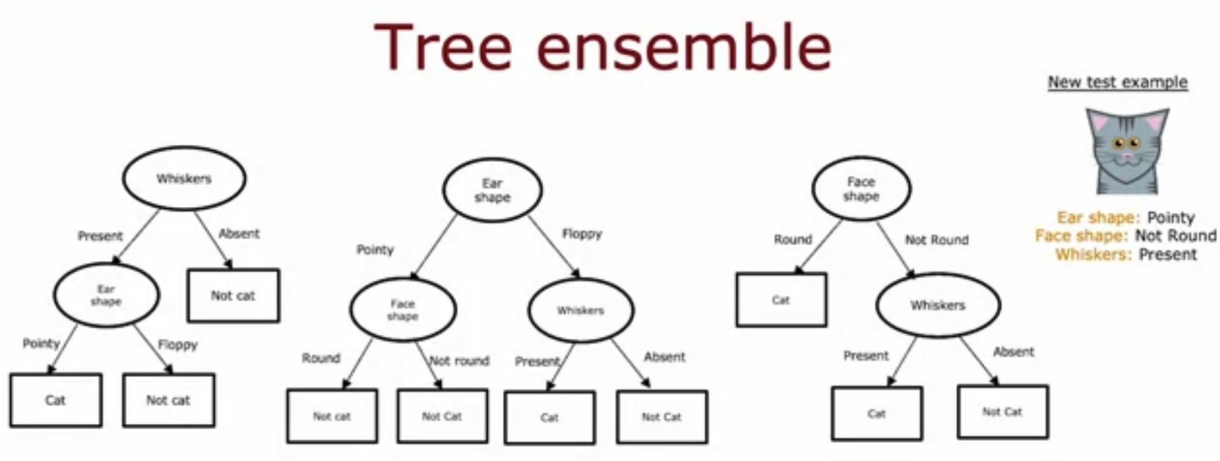
Practice quiz: Tree ensembles

Submit your assignment

Due Feb 25, 11:59 PM CET

1.

1 / 1 point



For the random forest, how do you build each individual tree so that they are not all identical to each other?

- ○ Train the algorithm multiple times on the same training set. This will naturally result in different trees.
- ○ If you are training B trees, train each one on 1/B of the training set, so each tree is trained on a distinct set of examples.
- ◉ Sample the training data with replacement and select a random subset of features to build each tree
- ○ Sample the training data without replacement

✓ **Correct**
Correct. You can generate a training set that is unique for each individual tree by sampling the training data with replacement. The random forest algorithm further avoids identical trees by randomly selecting a subset of features when building the tree ensemble.

2.

1 / 1 point

You are choosing between a decision tree and a neural network for a classification task where the input x is a 100x100 resolution image. Which would you choose?

- ◉ A neural network, because the input is unstructured data and neural networks typically work better with unstructured data.
- ○ A decision tree, because the input is structured data and decision trees typically work better with structured data.
- ○ A neural network, because the input is structured data and neural networks typically work better with structured data.
- ○ A decision tree, because the input is unstructured and decision trees typically work better with unstructured data.

✓ **Correct**
Yes!

3.

1 / 1 point

What does sampling with replacement refer to?

- ○ Drawing a sequence of examples where, when picking the next example, first remove all previously drawn examples from the set we are picking from.
- ○ It refers to a process of making an identical copy of the training set.
- ○ It refers to using a new sample of data that we use to permanently overwrite (that is, to replace) the original data.
- ◉ Drawing a sequence of examples where, when picking the next example, first replacing all previously drawn examples into the set we are picking from.

✓ **Correct**
Yes!