AdvancedLearningAlgorithms - WEEK4 - DecisionTree - QUIZ 3 (Tree ensembles)

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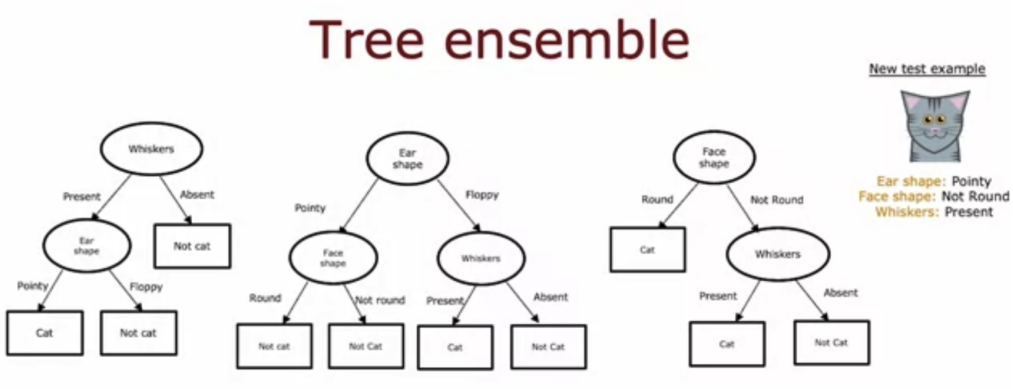
Your grade: 100%

Your latest: **100%** • Your highest: **100%** • To pass you need at least 80%. We keep your highest score.

Next item →

1 / 1 point



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

- ○ 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 without replacement
- ◉ Sample the training data with replacement and select a random subset of features to build each tree
- ○ Train the algorithm multiple times on the same training set. This will naturally result in different trees.

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.

1 / 1 point

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

Correct
Yes!

1 / 1 point

3. What does sampling with replacement refer to?

- It refers to a process of making an identical copy of the training set.
- 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 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!