

Recap

TOTAL POINTS 6

1.Question 1

What back propagation is usually used for in neural networks?

- ☐ To propagate signal through network from input to output only
- ☐ Make several random perturbations of parameters and go back to the best one
- ☒ To calculate gradient of the loss function with respect to the parameters of the network
- ☐ Select gradient update direction by flipping a coin

1 point

2.Question 2

Suppose we've trained a RandomForest model with 100 trees. Consider two cases:

We drop the first tree in the model

We drop the last tree in the model

We then compare models performance on the train set. Select the right answer.

- ☐ In the case 1 performance will drop more than in the case 2
- ☒ In the case 1 performance will be roughly the same as in the case 2
- ☐ In the case 1 performance will drop less than in the case 2

1 point

3.Question 3

Suppose we've trained a GBDT model with 100 trees with a fairly large learning rate. Consider two cases:

We drop the first tree in the model

We drop the last tree in the model

We then compare models performance on the train set. Select the right answer.

- ☐ In the case 1 performance will be roughly the same as in the case 2

☐ In the case 1 performance will drop less than in the case 2

☒ In the case 1 performance will drop more than in the case 2

1 point

#### 4.Question 4

Consider two cases:

We fit two RandomForestClassifiers 500 trees each and average their predicted probabilities on the test set.

We fit a RandomForestClassifier with 1000 trees and use it to get test set probabilities.

All hyperparameters except number of trees are the same for all models.

Select the right answer.

☐ The quality of predictions in the case 1 will be higher than the quality of the predictions in the case 2

☒ The quality of predictions in the case 1 will be roughly the same as the quality of the predictions in the case 2

☐ The quality of predictions in the case 1 will be lower than the quality of the predictions in the case 2

1 point

#### 5.Question 5

What model was most probably used to produce such decision surface? Color (from white to purple) shows predicted probability for a point to be of class "red".

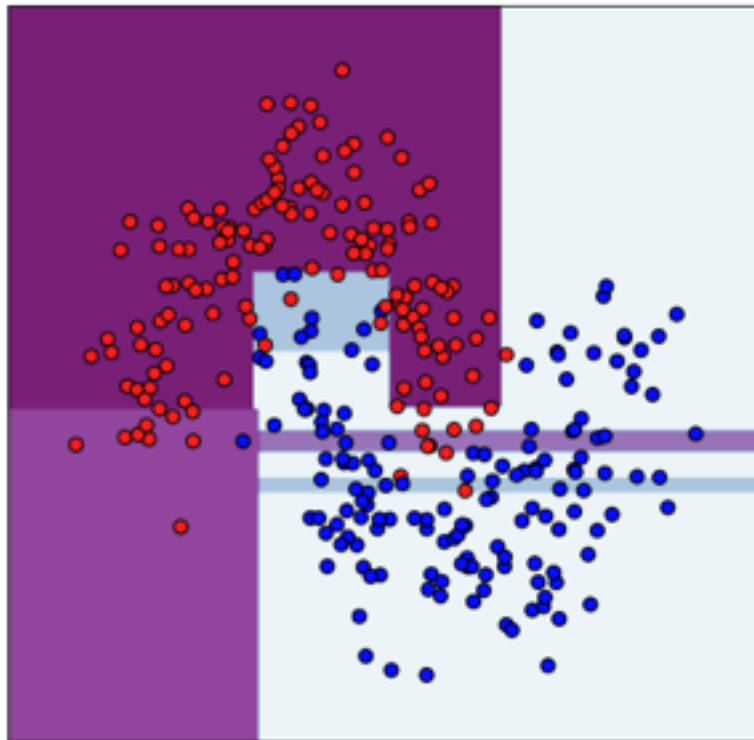
☐ k-NN

☒ Decision Tree

☐ Random Forest

☐ Linear model

1 point



6.Question 6

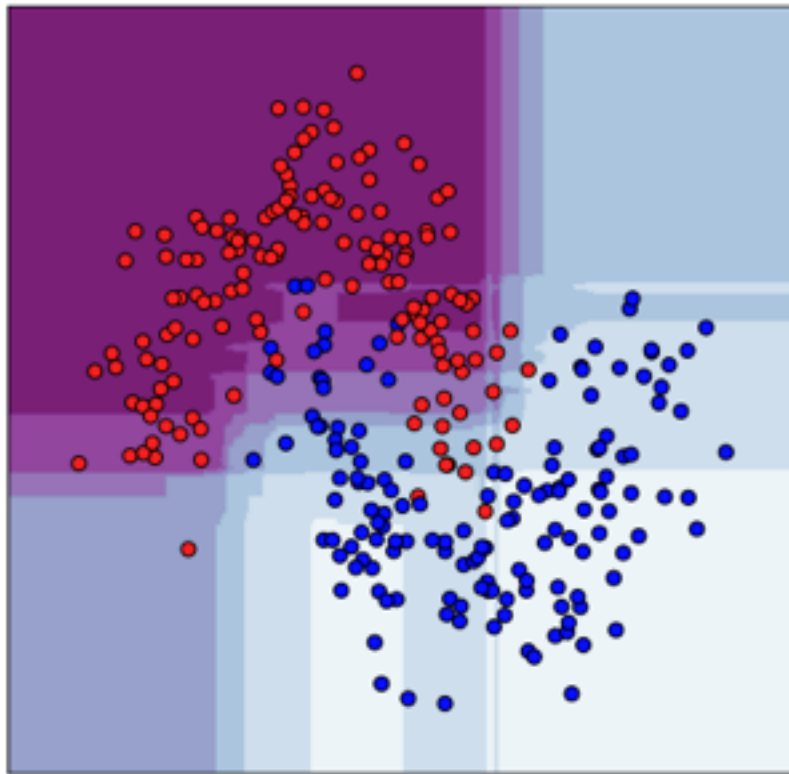
What model was most probably used to produce such decision surface?

☒ Random Forest

☐ Decision Tree

☐ k-NN

☐ Linear model



1 point

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