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NOTES: the code takes a couple of minutes (4~5) to be built and a couple more for prediction / calculating the accuracy.

Q2

Could you use both neural nets and decision trees together in a boosting algorithm?
How would you use the boosting weights in the training of a deep neural net?

A2

You could use neural networks and decision trees together in a boosting algo in the following approach:

Start by building a decision tree as the base for the boosting algorithm. After fitting the initial decision tree, I could use the errors as the target for the training of the network. The network will try to fix the errors that i made earlier using the decision tree.

I could continue this process and building new trees as new input for diversity until a certain stopping condition.

I can use the errors of the decision tree as the boosting weights for the deep neural network as I mentioned before, after each iteration the network will pay more attention to the neurons with the higher error.

example of use:

1. Build a decision tree using the data
2. Train the tree on the training data
3. Calculate the errors using the tesing set
4. Build the network and assign the boosting errors to be as the tree errors
5. Train the neural network on the errors I assigned before
6. Calculate the new errors
7. Stop when I reach one of the stopping flags.