Brief Report

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Assumption:

1. Split node: I first split node which has the minimum depth. If nodes have the same depths, then I randomly choose one.
2. Prune: I randomly prune one node from all leaf nodes in the tree in one round pruning.

Result:

1. I have implemented the ID3 algorithm using python, and applied it to the two datasets. My model accomplished 70% accuracy in training dataset, and around 65% accuracy in validation and test dataset.
2. Randomly pruning the nodes in the tree (I used pruning factor equal to 0.2) does not improve the accuracy, but accuracy also not decrease it a lot.