

# Work in progress

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This document contains the work that is in progress and code that still needs to be written:

## Work in Progress

- The linesearch is now implemented, though if we define the optimal update for a leaf  $\gamma$  as the mean of the first order derivative divided by the mean of the second order derivative things go wrong. As a leaf is still quite large, it happens that the average second order derivative is actually quite close to zero forcing gamma to blow up. As a solution we instead take an average of the  $\gamma$  for each observation in the leaf.
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## Programming goals

- Cross-validation procedure
- Out-of-Bag samples to check "on-the-fly" the correct stopping criterion (Does this work?)
- Add the possibility of getting quantile estimates from the predict function
- Possibility of adding a constant gamma by not splitting the tree
- Creating examples for different data purposes