**GBM Hyperparameter Tuning**

Starting the tuning with default hyper parameters.

1. Shrinkage as 0.1

2. interaction.depth as 1

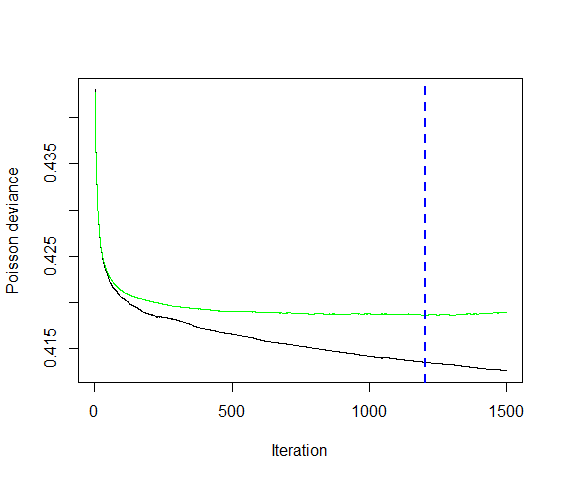
3. n.trees as 100 would not be suffice, hence putting n.trees as a large value, somewhere around 1500.

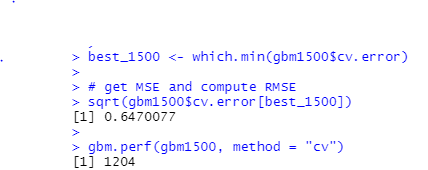
Computed the RMSE value, plotted Poisson deviance

YET TO DO

Next, we are increasing the interaction.depth as 3 (increase the depth of each tree from using a single split to 3 splits).

Observed that the loss function is minimised.



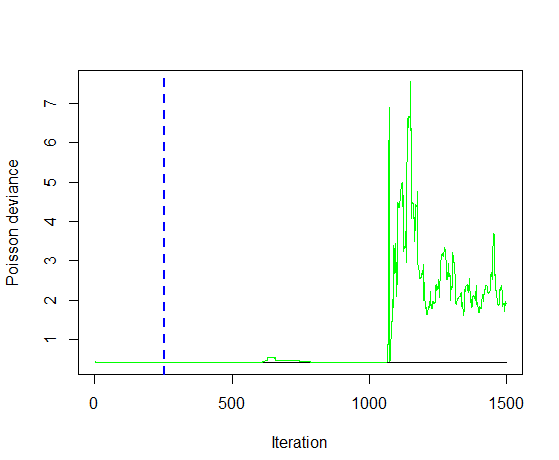


Tuning:

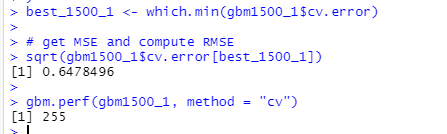
Now, with the observed values we can perform grid search.

First: Trying for learning rate: 0.1 and 0.3, and rest all values remains same.





0.3:

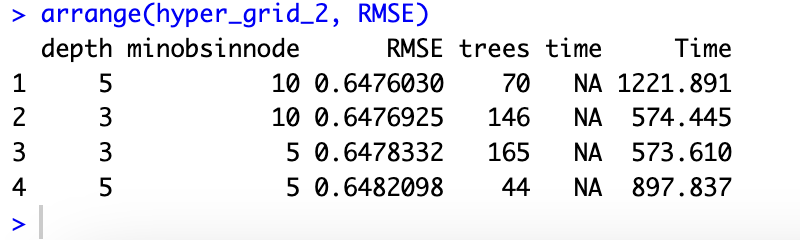


Results:

Next, we will set the learning rate at optimal level and tune the other parameters, interaction.depth and n.minobsinnode.

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A screenshot of a computer code

Description automatically generated

Took 10% subset of the data, and performed parameter tuning:

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