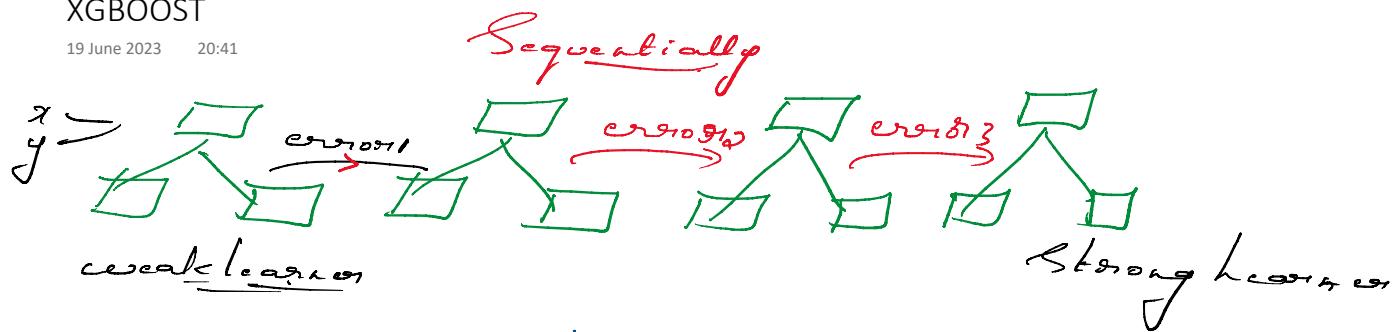


XGBOOST

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$XGBoost \rightarrow X\text{treme Gradient Boosting}$

- * $XGBoost$ is one of the ensemble technique that combines predictions of multiple weak learner to produce strong learner.
- * $XGBoost$ focus on producing the mistake made by the weak learners to get a strong model.
- * $XGBoost$ is very popular and widely used algorithm which can handle huge amount of data.
- * $XGBoost$ has won many kaggle competition.

Interesting facts about $XGBoost$

- * $XGBoost$ can handle missing values.
- * $XGBoost$ has regularization parameter which reduces overfitting.
- * $XGBoost$ has inbuilt cross-validation and feature pruning.
- * $XGBoost$ will make use of all the hardware resources.

Hyperparameters in $XGBoost$

- * $n_estimators \rightarrow$ no of base learners
- * $\text{max_depth} \rightarrow$ height of tree.
- * $\text{Learning rate} \rightarrow$ it is used to slow down the learning process.
- * $\text{Gamma} \rightarrow$ Gamma specifies the minimum reduction required to do further split

iteration required to do further split

- * Reg-alpha] These are the regularization parameters
- Reg-lambda] which reduces overfitting