XG Boosting/GradientBoostingRegressor

- ***GRADIENT BOOSTING REGRESSION TREES ARE BASED ON THE IDEA OF AN ENSEMBLE METHOD DERIVED FROM A DECISION TREE****. THE DECISION TREE USES A TREE STRUCTURE. STARTING FROM TREE ROOT, BRANCHING ACCORDING TO THE CONDITIONS AND HEADING TOWARD THE LEAVES, THE GOAL LEAF IS THE PREDICTION RESULT*
- *XGBOOST, WHICH STANDS FOR EXTREME GRADIENT BOOSTING, IS **A SCALABLE, DISTRIBUTED GRADIENT-BOOSTED DECISION TREE (GBDT) MACHINE LEARNING LIBRARY. IT PROVIDES PARALLEL TREE BOOSTING**.*

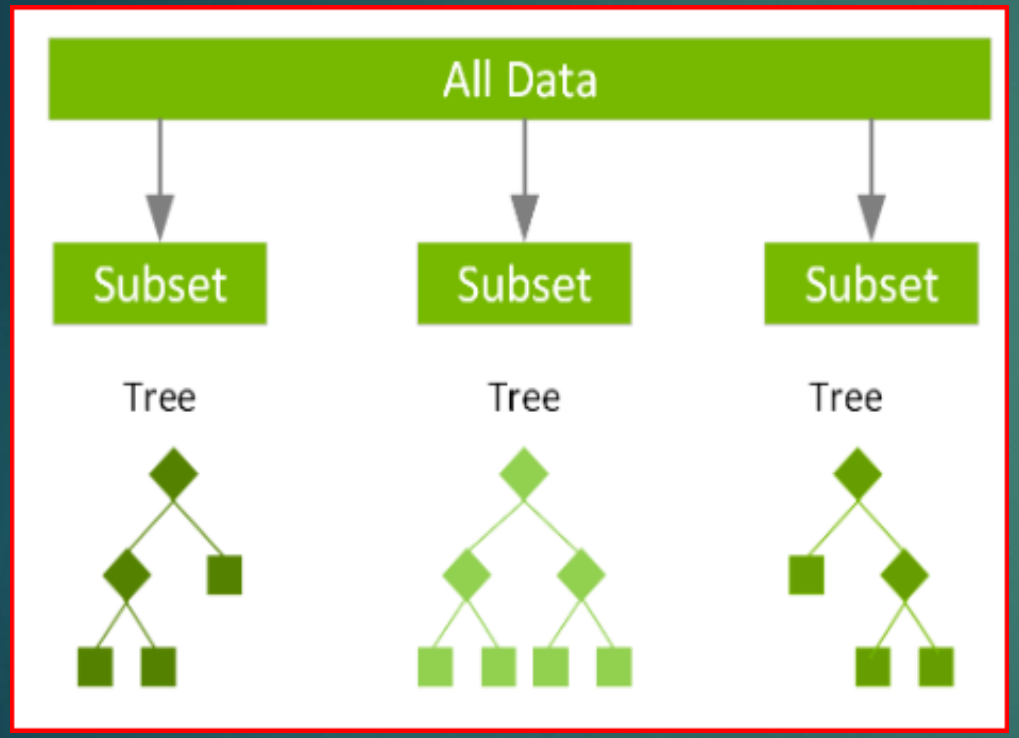
Use of XGBoost regressor

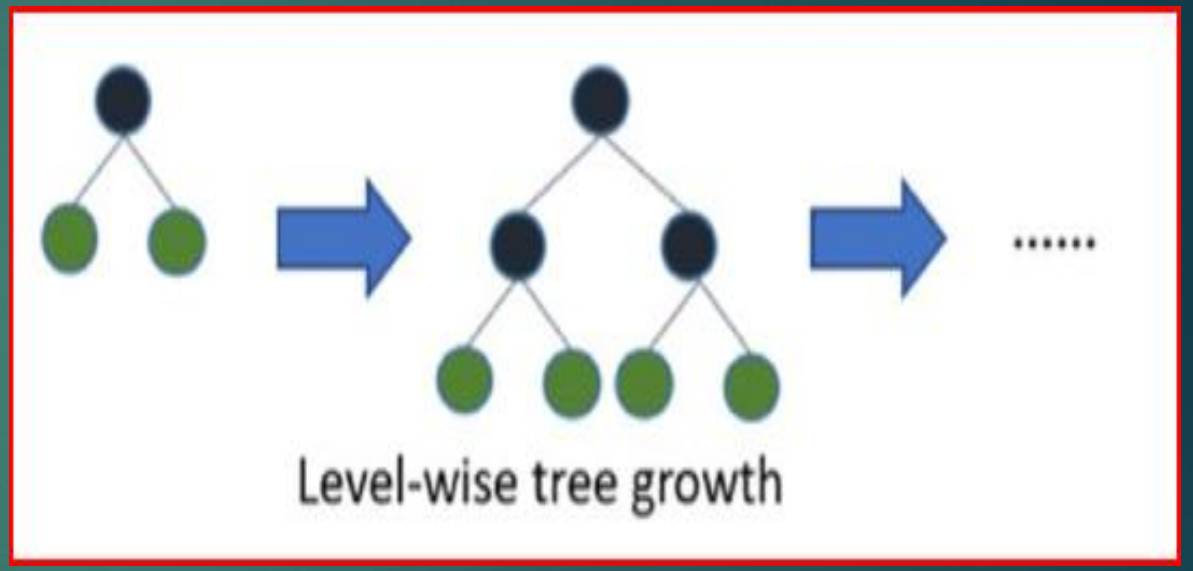
- One of the key advantages of XGBoost is its **ability to handle missing data and large datasets efficiently.** It also **has a number of hyperparameters that can be tuned to improve model performance**, including the **learning rate, depth of the trees, and regularization parameters**.

XGBoost vs gradient boosting

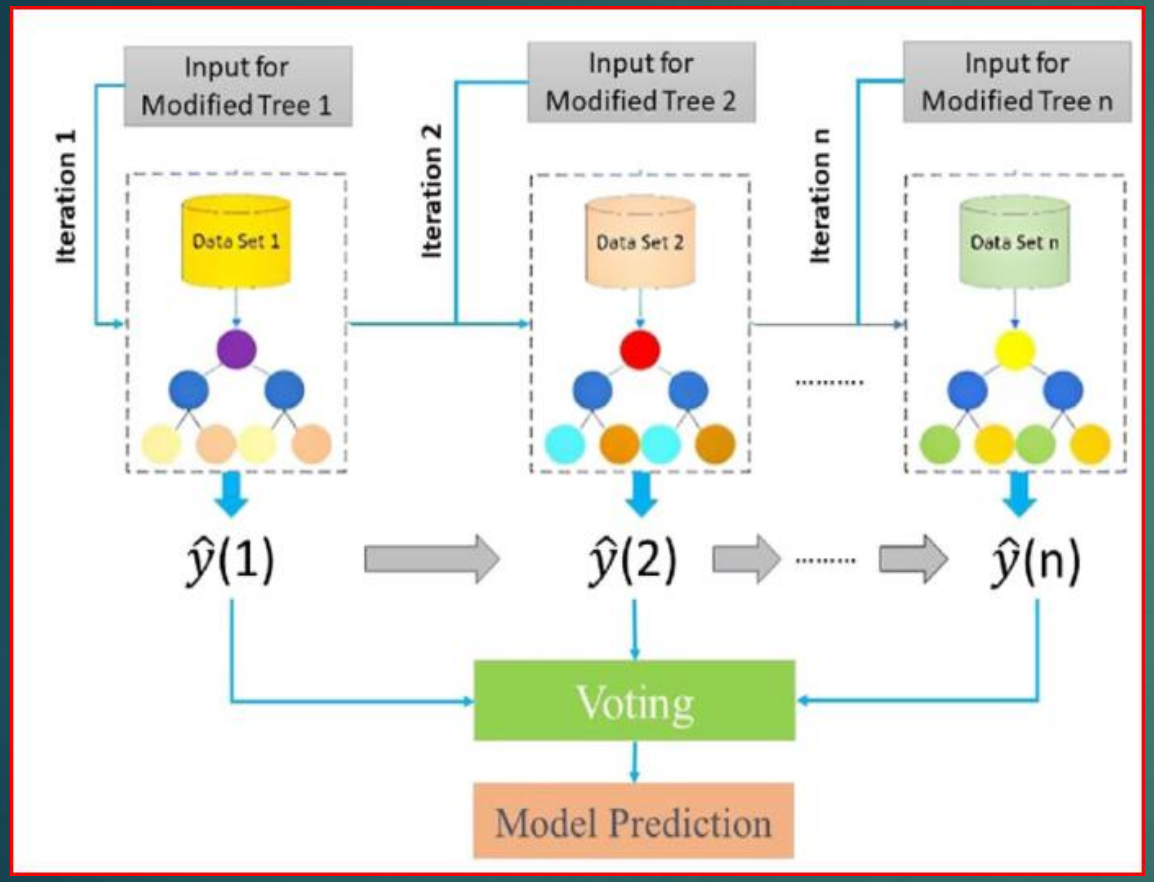
XGBoost builds upon the **principles of traditional gradient boosting while introducing several enhancements** and optimizations that make it a go-to choice for predictive modeling tasks. **XGBoost is designed for efficiency and scalability, making it significantly faster than traditional gradient boosting implementations.**

XG boosting - high accuracy and computational speed





XGboost



GradientBoostingRegressor