AdaBoostRegressor:

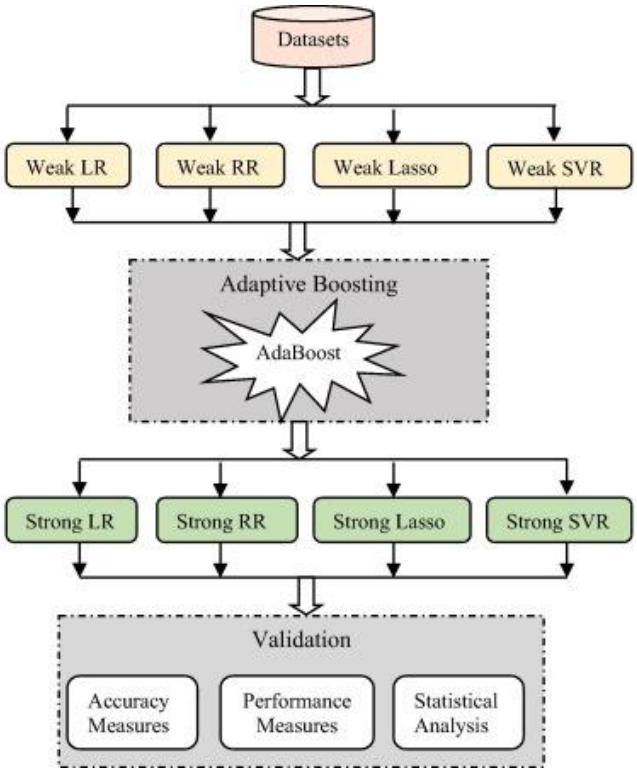
- AdaBoostRegressor in scikit-learn is an ensemble method for regression that combines multiple "weak" regressors (e.g., decision trees) to create a strong predictor.
- It works by iteratively training regressors on the data, assigning higher weights to instances that were mispredicted by previous regressors.
- The final prediction is a weighted sum of the predictions from all regressors.

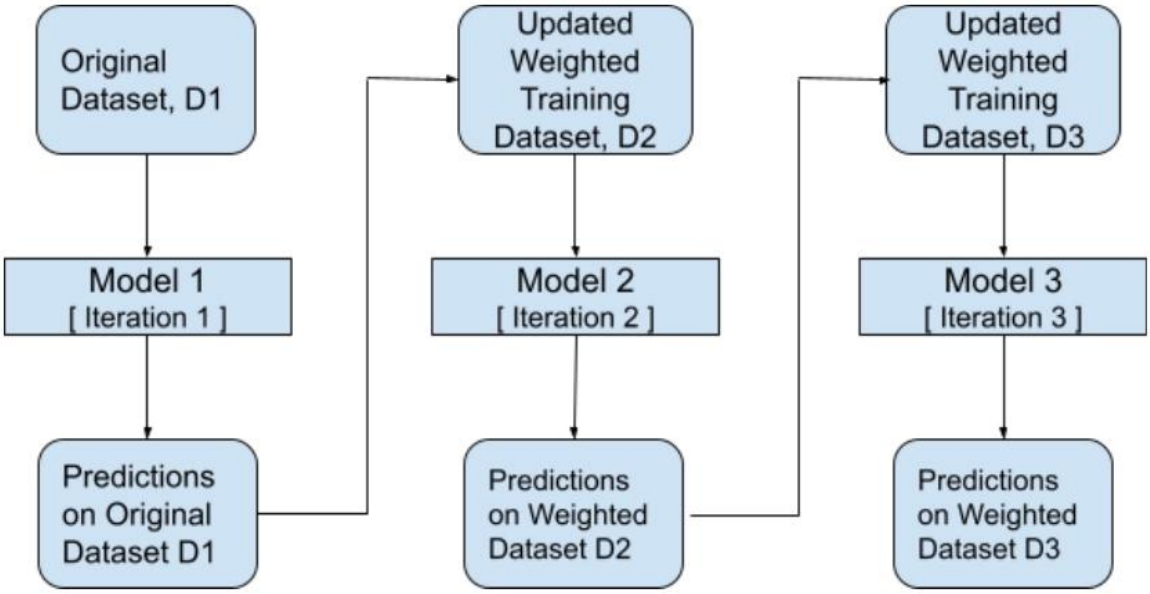
Function uses in python notebook:

from sklearn.ensemble import AdaBoostRegressor

Regressor = AdaBoostRegressor(random_state=0, n_estimators=100)

Regressor.fit(X, y)



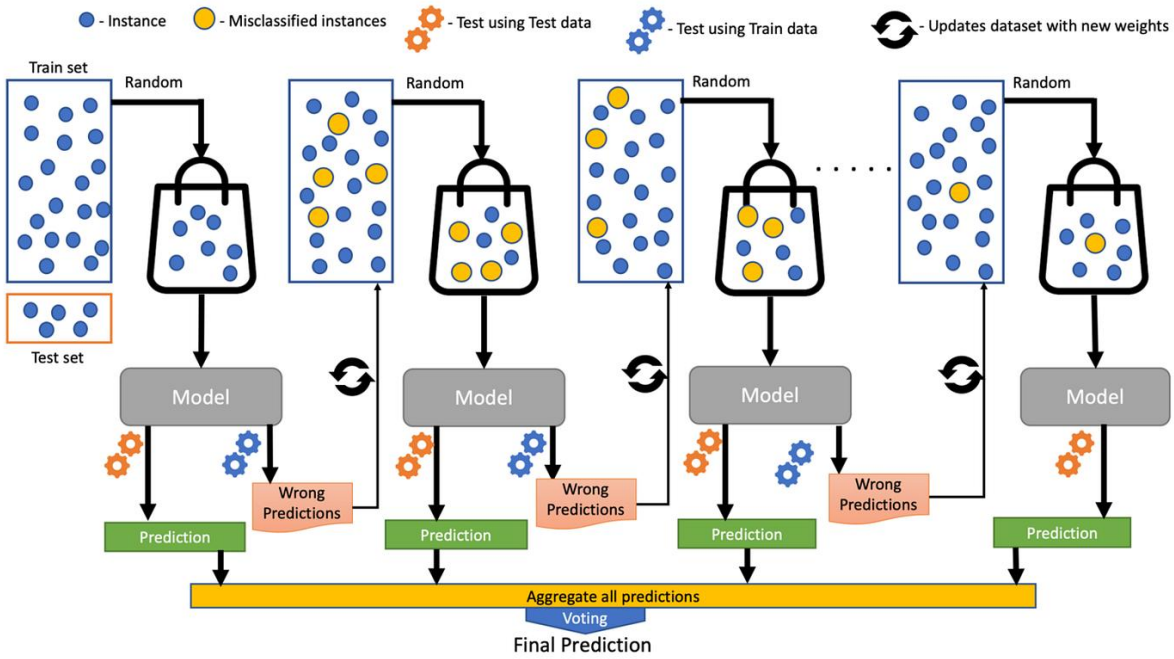


XG Boosting:

- Extreme Gradient Boosting
- powerful and efficient machine learning algorithm often used for regression tasks
- It is an optimized implementation of gradient boosting, known for its speed and performance
- Gradient boosting can be used for regression and classification problems

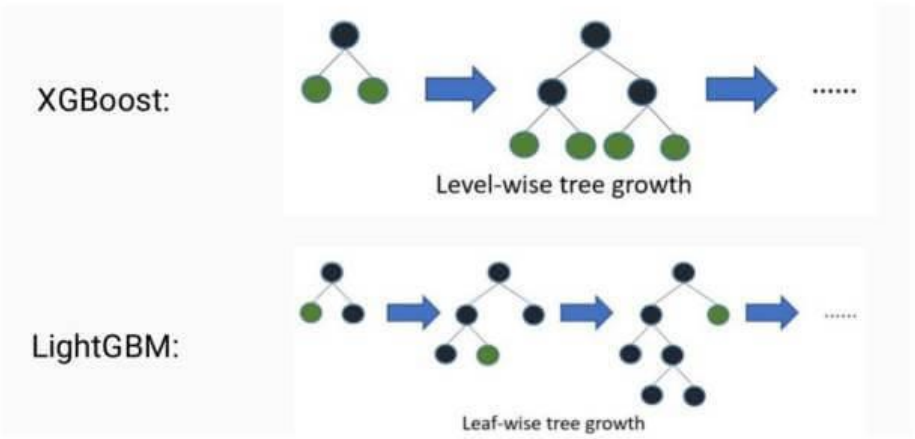
Function uses in python notebook:

```
from sklearn.ensemble import GradientBoostingRegressor

Reggresion = GradientBoostingRegressor(random_state=0)

Reggresion.fit(X_train, y_train)
```



LG Boosting:

- Light Gradient Boosting
- Less Memory Usage
- Reduction in Communication Cost for parallel learning
- Reduction in Cost for calculating gain for each split in the decision tree.
- LGBM is a quick, distributed, and high-performance gradient lifting framework which is based upon a popular machine learning algorithm – Decision Tree.
- It can be used in classification, regression, and many more machine learning tasks.
- This algorithm grows leaf wise and chooses the maximum delta value to grow.



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XGBoost - An In-Depth Guide [Python]