Boosting Algorithm-Regression
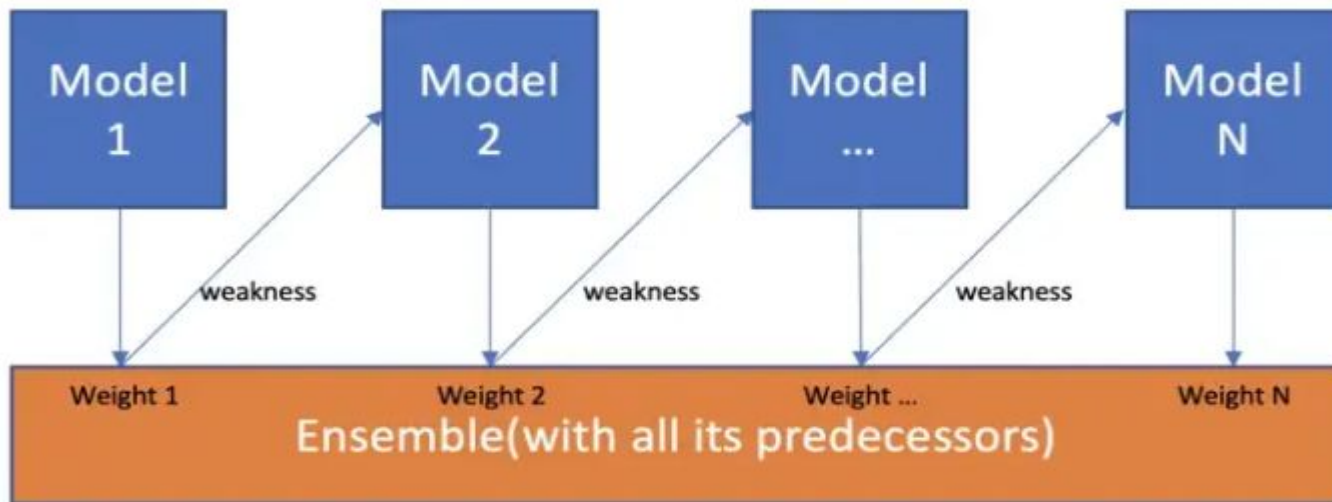
Ada Boost

Gradient Boosting
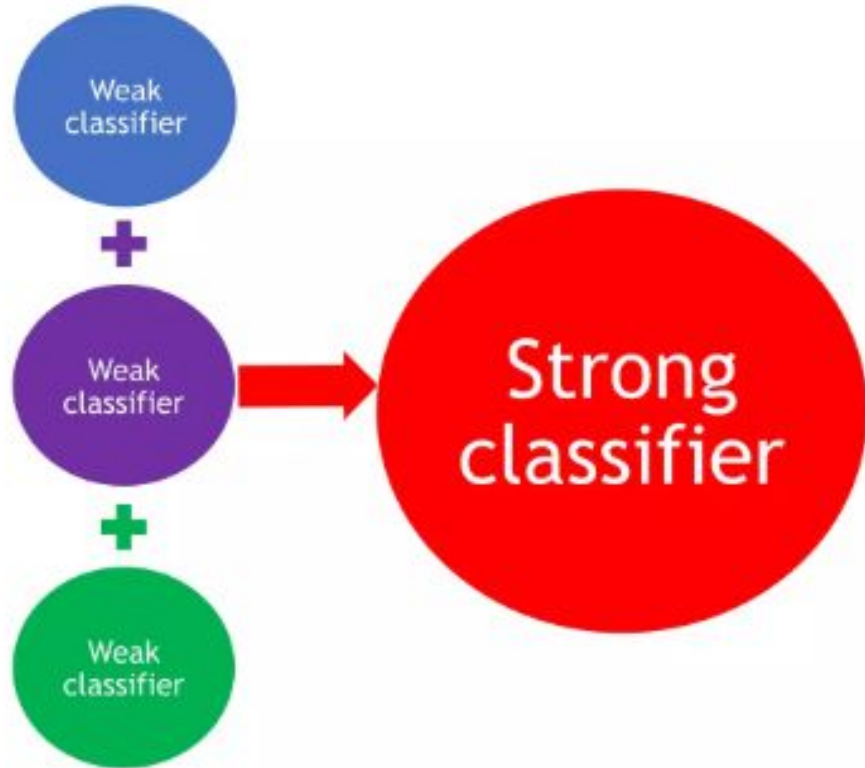
XG Boosting

Boosting Algorithm

Boosting algorithms seek to improve the prediction power by training a sequence of weak models, each compensating the weaknesses of its predecessors.
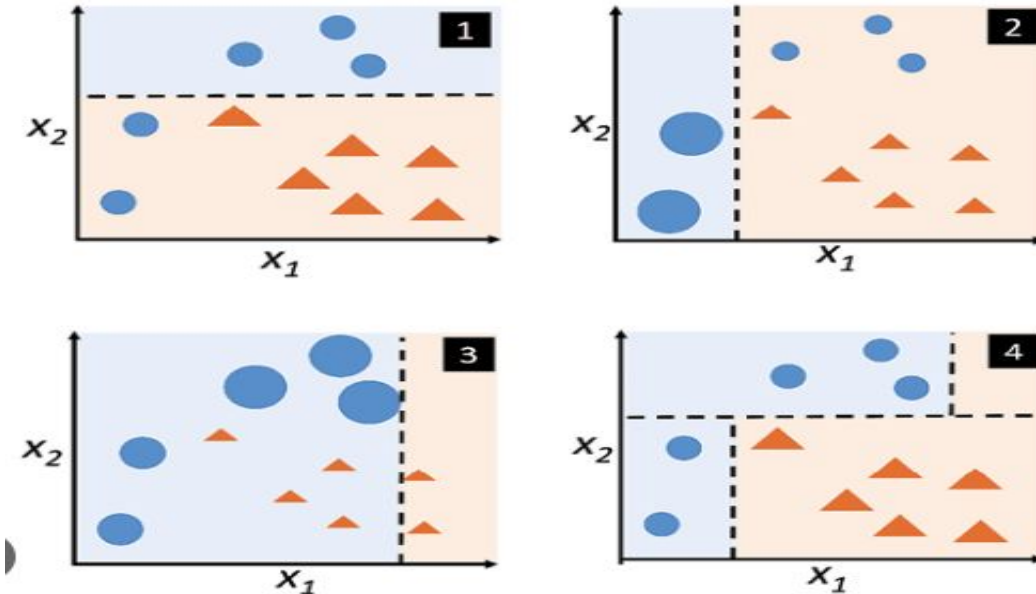
Boosting Algorithm

- **Weak classifiers**
  - Only slightly better than random guess.
  - Very easy to find

- **Strong classifier:**
  - Very accurate
  - Less overfitting

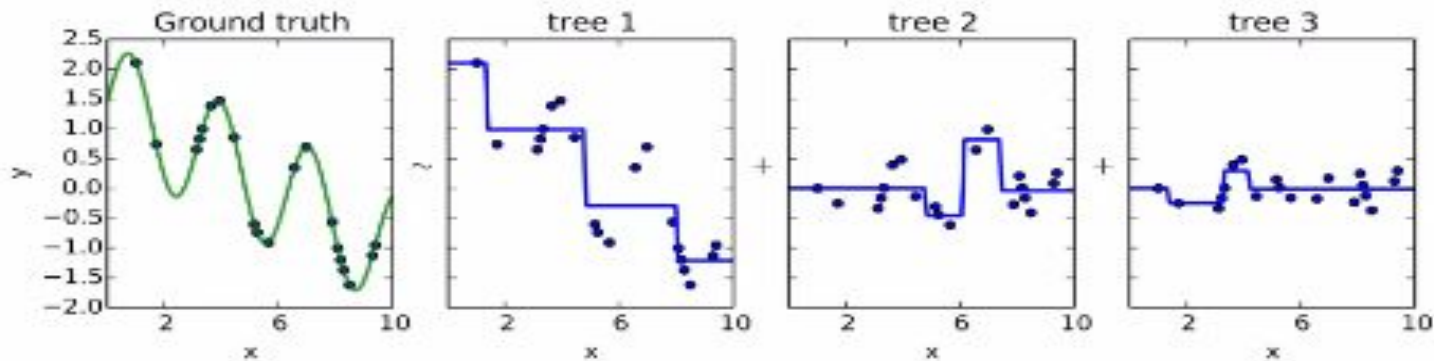Weak classifier + Weak classifier + Weak classifier → Strong classifier

AdaBoost

AdaBoost regressor is a meta-estimator that begins by fitting a regressor on the original dataset and then fits additional copies of the regressor on the same dataset but where the weights of instances are adjusted according to the error of the current prediction.
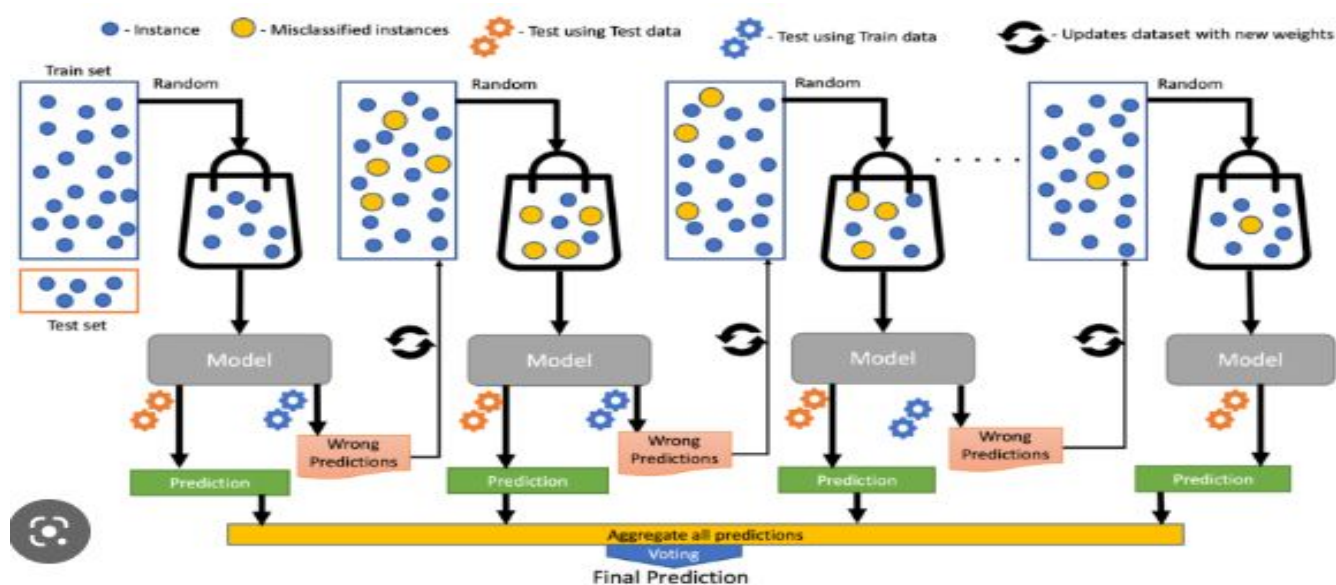
Gradient Boosting

Gradient boosting is one of the variants of ensemble methods where you create multiple weak models and combine them to get better performance as a whole.

Residual fitting

XG Boosting

- XGBoost is an efficient implementation of gradient boosting that can be used for regression predictive modeling.
- How to fit a final model and use it to make a prediction on new data.

Thank You