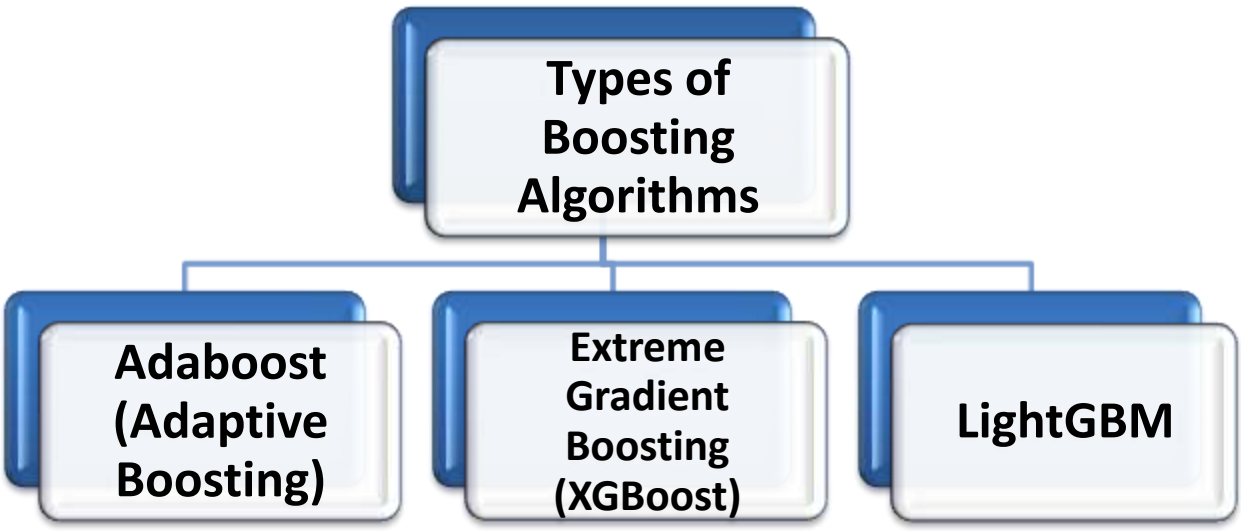
Boosting Algorithm

Combines predictions of different weak models

New models depend on previous models' errors

Models are weighted based on performance

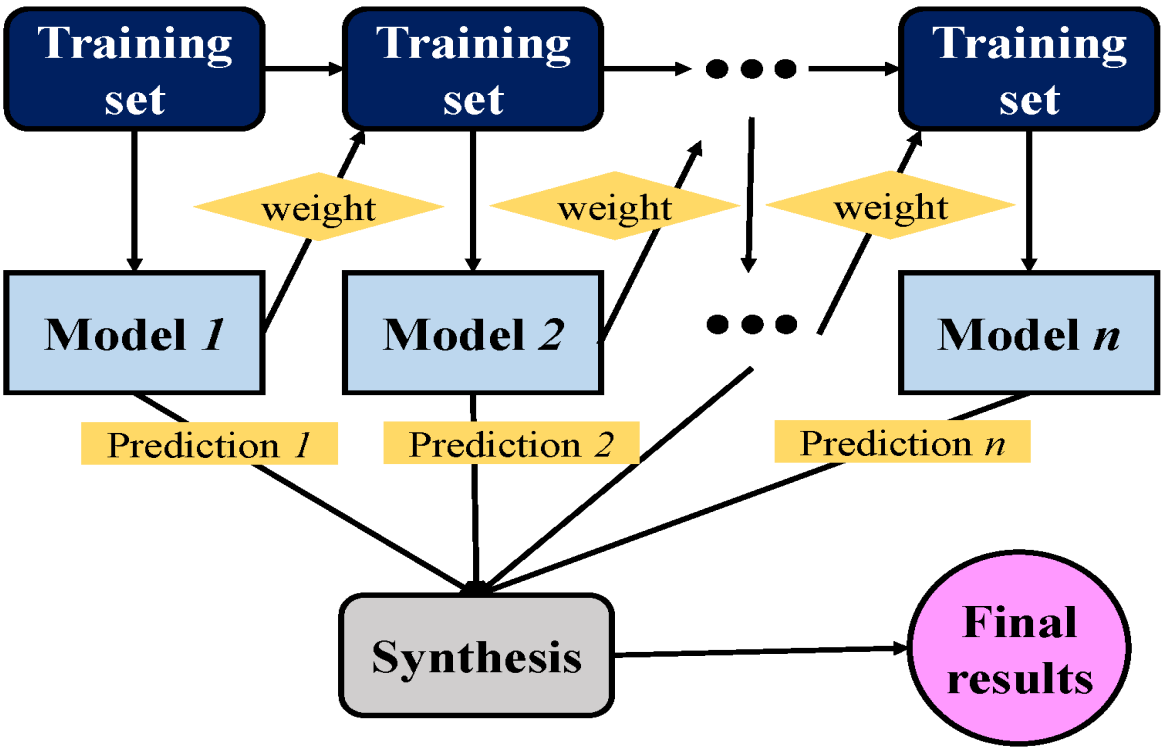


Advantages of Boosting

- **Improved Accuracy**
- **Handling Complex Data**
- **Reduce Overfitting**

AdaBoost

AdaBoost Regressor is a powerful ensemble method for regression that improves prediction accuracy by sequentially combining weak learners and adjusting weights based on errors, ultimately creating a strong predictive model.



There are three ideas behind the AdaBoost algorithm:

AdaBoost combines a lot of "weak learners" to make classifications. The weak learners are almost always stumps.

Each stump is made by taking the previous stumps mistakes into account.

The final prediction is the weighted majority vote.

Advantages of Boosting Algorithm

- High accuracy, especially with noisy data
- Relatively easy to implement.
- Less prone to overfitting than some other methods