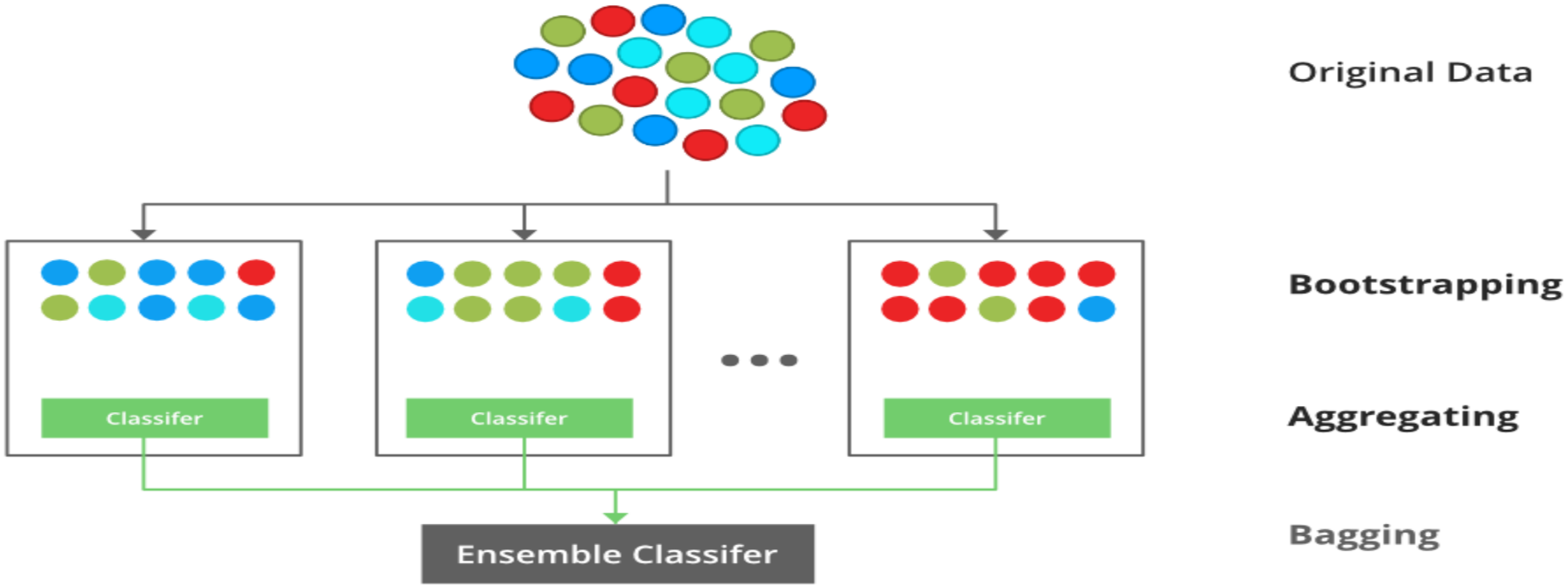
XG BOOSTING

XGBoost is a popular and efficient open-source implementation of the gradient boosted trees algorithm.

Gradient boosting is a supervised learning algorithm, which attempts to accurately predict a target variable by combining the estimates of a set of simpler, weaker models.



XG BOOSTING

- XGBoost stands for “Extreme Gradient Boosting” and it has become one of the most popular and widely used machine learning algorithms due to its ability to handle large datasets and its ability to achieve state-of-the-art performance in many machine learning tasks such as classification and regression.
- **XG Boosting Parameters:**

1. **General Parameters:** Guide the overall functioning
2. **Booster Parameters:** Guide the individual booster (tree/regression) at each step
3. **Learning Task Parameters:** Guide the optimization performed

XG Boosting Hyper Parameter

1.General Parameters

1.booster [default=gbtree]

2.silent [default=0]

3.nthread [default to the maximum number of threads available if not set]

2.Booster Parameters

1.eta [default=0.3]

2. min_child_weight [default=1

3. max_depth [default=6]

4. max_leaf_nodes

5. gamma [default=0]

6. max_delta_step [default=0]

XG Boosting Hyper Parameter

3.Learning Task Parameters

1.objective [default=reg:linear]

2.eval_metric [default according to objective]

- **rmse** – root mean square error
- **mae** – mean absolute error
- **logloss** – negative log-likelihood
- **error** – Binary classification error rate (0.5 thresholds)
- **merror** – Multiclass classification error rate
- **mlogloss** – Multiclass logloss
- **auc:** Area under the curve

3. seed [default=0]