



Decision Tree



VS



Random Forest



VS

dmlc

XGBoost

Decision Trees vs Random Forest vs XGBoost

| Observation | Decision Tree | Random Forest | XGBoost |
|--------------------|-----------------------------|-----------------------------|----------------------------------|
| Common Abbr. | DT | RF | XGB |
| Method | Non-parametric supervised | Ensemble (averaging) | Ensemble (boosting) |
| No. of trees | 1 | Many | Many |
| Features | Both* | Both* | Both |
| Training | Sequential | Parallel | Sequential |
| Requirement | NA | independent DTs | NA |
| Performance | Good | Better | Best |
| Important Params. | max_depth, min_samples_leaf | max_depth, min_samples_leaf | eta, max_depth, min_child_weight |
| Process train data | Easy | Easy | Difficult |