

SVM works by finding significant boundaries in the data. These are hyper-planes that can be used to describe the target attribute based on where the input data lies. SVM can work even when boundaries are not clearly defined. However, if the data is very interspersed it may begin to struggle to evaluate.

Random forest works by creating multiple decision trees. However, these trees evaluate between a subset of parameters rather than between all the parameters. XGBoost works similarly to random forest. It creates multiple trees in order to evaluate the model. The main difference is that XGBoost has additional logic for choosing the features to split on as well as incorporating other tree operations such as pruning. AdaBoost works by setting weights for the training data and iteratively adjusting them to find which observations are most representative of the target.