XGBoost Hyperparameter Table				
Name	**Default**	**Range**	**Effect**	**Notes/Tips**
n_estimators	100	[1, inf)	Increasing may improve scores with large data.	The number of trees in the ensemble.
learning_rate **alias:eta**	0.3	[0, inf)	Decreasing prevents overfitting.	Shrinks the tree weights in each round of boosting.
max_depth	6	[0, inf)	Decreasing prevents overfitting.	The depth of the tree. 0 is an option in a loss-guided growing policy.
gamma **alias: min_split_loss**	0	[0, inf)	Increasing prevents overfitting.	Low values, usually lower than 10, are standard.
min_child_weight	1	[0, inf)	Increasing prevents overfitting.	The minimum sum of weights required for a node to split.
subsample	1	(0, 1]	Decreasing prevents overfitting.	Limits the percentage of training rows for each boosting round.
colsample_bytree	1	(0, 1]	Decreasing prevents overfitting.	Limits the percentage of training columns for each boosting round.
colsample_bylevel	1	(0, 1]	Decreasing prevents overfitting.	Limits the percentage of columns for each depth level of the tree.
colsample_bynode	1	(0, 1]	Decreasing prevents overfitting.	Limits the percentage of columns to evaluate splits.
scale_pos_weight	1	(0, inf)	Sum(negatives)/ Sum(positives) balances data.	Used for imbalanced datasets. See Chapter 5, XGBoost Unveiled, and Chapter 7, Discovering Exoplanets with XGBoost.
max_delta_step	0	[0, inf)	Increasing prevents overfitting.	Only recommended for extremely imbalanced datasets.
lambda	1	[0, inf)	Increasing prevents overfitting.	L2 regularization of weights.
alpha	0	[0, inf)	Increasing prevents overfitting.	L1 regularization of weights.