

# Models training and selection

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```
# PATH TO CUSTOM MODULES
import sys

sys.path.append("../src")

# IMPORT LIBRARIES
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns

# MODELS
from sklearn.neighbors import KNeighborsClassifier
from sklearn.naive_bayes import GaussianNB
from sklearn.svm import SVC
from sklearn.ensemble import RandomForestClassifier
```

```

from xgboost import XGBClassifier
from sklearn.linear_model import LogisticRegression
from sklearn.ensemble import AdaBoostClassifier

from sklearn.model_selection import GridSearchCV
from sklearn.model_selection import cross_val_score
from sklearn.metrics import (
    roc_curve,
    auc,
    roc_auc_score,
    confusion_matrix,
    classification_report,
    accuracy_score,
    precision_score,
    recall_score,
    f1_score,
    precision_recall_curve,
    average_precision_score,
)

import glob
import os

# IMPORT CUSTOM MODULES
import utils.loadDataUtils as ldu
import utils.modelsUtils as mu

# DIRECTORIES
input_path = "../data/processed/"
training_path = input_path + "train_data/"
test_path = input_path + "test_data/"
results_path = "../models/results/"

# FILES

# RESULTS FILE
results_file = "results_table.csv"

# GET TRAINING AND TEST CSV FILES
training_csv_files = ldu.get_csv_files(training_path)

```

```

test_csv_files = ldu.get_csv_files(test_path)

# GET DATASET NAMES FROM CSV FILES
dataset_names = ldu.get_dataset_names(training_csv_files)

# LOAD TRAINING AND TEST DATA
datasets = ldu.load_training_test_datasets(
    datasets_names=dataset_names, training_path=training_path, test_path=test_path
)

```

## 1 CALCULATE MODELS FOR EACH DATASET

### 1.1 GLOBAL VARIABLES

```

parameters_grids = list()
model_names = list()

```

#### 1.1.1 KNN PARAMETERS GRID

```

k_range = range(1, 101, 10)
distance_range = ["euclidean", "minkowski", "manhattan", "chebyshev", "jaccard"]
k_weight_range = ["uniform", "distance"]
parameters_grid_knn = dict(
    n_neighbors=k_range, metric=distance_range, weights=k_weight_range
)
model_name = "k-NN"

parameters_grids.append(parameters_grid_knn)
model_names.append(model_name)

```

#### 1.1.2 NAIIVE BAYES PARAMETERS GRID

```

nb_var_smoothing = np.logspace(0, -9, num=100)
parameters_grid_naive_bayes = dict(
    var_smoothing=nb_var_smoothing,
)

```

```

model_name = "Naive_Bayes"

parameters_grids.append(parameters_grid_naive_bayes)
model_names.append(model_name)

```

### 1.1.3 SVM PARAMETERS GRID

```

parameters_grid_svm = {
    "kernel": ["linear", "poly", "rbf", "sigmoid"],
    "C": [0.1, 1, 10, 100, 1000],
    "gamma": [1, 0.1, 0.01, 0.001, 0.0001],
}
model_name = "SVM"

parameters_grids.append(parameters_grid_svm)
model_names.append(model_name)

```

### 1.1.4 RANDOM FOREST PARAMETERS GRID

```

parameters_grid_random_forest = {
    "n_estimators": [10, 50, 100],
    "max_depth": [5, 10, 50],
    "min_samples_split": [5, 10, 20],
    "min_samples_leaf": [5, 10, 50],
    "max_features": ["sqrt", "log2"],
}
model_name = "Random_Forest"

parameters_grids.append(parameters_grid_random_forest)
model_names.append(model_name)

```

### 1.1.5 XGBOOST PARAMETERS GRID

```
xgboost_n_estimators = [1, 10, 50, 100]
xgboost_max_depth = [3, 5, 10]
xgboost_learning_rate = [0.01, 0.1]
xgboost_gamma = [0, 0.1, 0.4]
xgboost_colsample_bytree = [0.3]
xgboost_subsample = [0.3]
xgboost_reg_alpha = [0, 0.1]
xgboost_reg_lambda = [0.1]

parameters_grid_xgboost = {
    "n_estimators": [10, 50, 100],
    "max_depth": [5, 10, 50],
    "min_samples_split": [5, 10, 20],
    "min_samples_leaf": [5, 10, 50],
    "max_features": ["sqrt", "log2"],
}
model_name = "XGBoost"

parameters_grids.append(parameters_grid_xgboost)
model_names.append(model_name)

parameters_grid_logistic_regression = {
    "penalty": ["l1", "l2", "elasticnet", "none"],
    "C": [0.1, 1, 10, 100, 1000],
    "solver": ["newton-cg", "lbfgs", "liblinear", "sag", "saga"],
    "max_iter": [100, 1000, 2500, 5000],
}
model_name = "Logistic_Regression"

parameters_grids.append(parameters_grid_logistic_regression)
model_names.append(model_name)

parameters_grid_ada_boost = {
    "n_estimators": [10, 50, 100],
    "learning_rate": [0.01, 0.1, 1],
    "algorithm": ["SAMME", "SAMME.R"],
}
model_name = "Ada_Boost"
```

```
parameters_grids.append(parameters_grid_ada_boost)
model_names.append(model_name)
```

## 1.2 INSTANTIATE MODELS

```
models = list()

knn_model = KNeighborsClassifier()
models.append(knn_model)

naive_bayes_model = GaussianNB()
models.append(naive_bayes_model)

svm_model = SVC()
models.append(svm_model)

random_forest_model = RandomForestClassifier()
models.append(random_forest_model)

xgboost_model = XGBClassifier()
models.append(xgboost_model)

logistic_regression_model = LogisticRegression()
models.append(logistic_regression_model)

ada_boost_model = AdaBoostClassifier()
models.append(ada_boost_model)
```

## 1.3 BUILD KNN MODELS

```
models_results = dict()

for i in range(len(models)):
    model = models[i]
    parameters_grid = parameters_grids[i]
    model_name = model_names[i]
```

```

model_results = mu.calculate_models(
    model=model,
    parameters_grid=parameters_grid,
    datasets=datasets,
    model_name=model_name,
)

results = model_results[0]
roc_curves = model_results[1]

# OPEN FILE
file = open(results_path + results_file, "a")
# REMOVE ROWS IN TABLE_RESULTS.CSV THAT STARTS WITH k-NN
table_results = pd.read_csv(results_path + results_file)
table_results = table_results[
    ~table_results["model_name"].str.startswith(model_name)
]
table_results.to_csv(results_path + results_file, index=False)
# WRITE RESULTS
results.to_csv(file, header=False, index=False)
# CLOSE FILE
file.close()

models_results[model_name] = roc_curves

```

Fitting 5 folds for each of 100 candidates, totalling 500 fits

Fitting 5 folds for each of 100 candidates, totalling 500 fits

Fitting 5 folds for each of 100 candidates, totalling 500 fits

Fitting 5 folds for each of 100 candidates, totalling 500 fits

Fitting 5 folds for each of 100 candidates, totalling 500 fits

Fitting 5 folds for each of 100 candidates, totalling 500 fits

Fitting 5 folds for each of 100 candidates, totalling 500 fits

Fitting 5 folds for each of 100 candidates, totalling 500 fits

Fitting 5 folds for each of 100 candidates, totalling 500 fits

Fitting 5 folds for each of 100 candidates, totalling 500 fits

Fitting 5 folds for each of 100 candidates, totalling 500 fits

Fitting 5 folds for each of 100 candidates, totalling 500 fits

Fitting 5 folds for each of 100 candidates, totalling 500 fits

Fitting 5 folds for each of 100 candidates, totalling 500 fits

Fitting 5 folds for each of 100 candidates, totalling 500 fits

Fitting 5 folds for each of 162 candidates, totalling 810 fits

Fitting 5 folds for each of 162 candidates, totalling 810 fits

Fitting 5 folds for each of 162 candidates, totalling 810 fits

Fitting 5 folds for each of 162 candidates, totalling 810 fits

Fitting 5 folds for each of 162 candidates, totalling 810 fits

Fitting 5 folds for each of 162 candidates, totalling 810 fits

[17:31:24] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:31:24] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:31:25] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:31:26] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9











[17:32:43] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:44] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:46] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:47] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:49] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:50] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:53] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:57] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:58] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:05] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:11] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:31:27] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:31:28] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:31:28] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:31:29] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:31:30] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:31:30] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:31:31] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:31:32] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:31:33] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:31:34] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:31:36] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:31:36] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:31:37] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:31:39] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:31:40] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:31:40] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:31:42] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.







[17:32:02] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:04] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:09] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:13] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:17] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:19] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:20] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:22] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:23] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:25] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:26] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:26] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:30] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
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Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:37] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:38] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:40] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:41] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:41] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:46] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:50] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:53] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:54] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:57] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:01] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:07] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:31:57] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:31:58] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.



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[17:32:26] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:28] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:32] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:36] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:41] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:43] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:44] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:46] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:47] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:49] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:50] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:51] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:56] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:02] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:06] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:12] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:16] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:17] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:23] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:29] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:31] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:34] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:35] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:38] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:39] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:45] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:54] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:55] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.



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[17:34:34] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:39] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:44] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:44] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:47] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:48] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:51] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:52] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:54] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:55] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:58] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:59] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:41] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:43] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9

Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:44] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:46] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:47] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:48] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:52] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:57] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:58] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:01] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:02] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:06] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:07] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:11] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:12] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:15] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.



[17:33:16] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:20] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:21] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:25] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:26] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:30] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:31] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:37] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:43] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:46] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:55] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:58] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:58] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:02] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.







[17:32:29] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:31] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:32] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:34] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
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[17:32:34] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:37] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:41] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:46] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:50] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:53] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:54] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:57] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:58] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:02] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.



Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:44] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:50] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:57] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:58] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:00] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:01] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:03] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:04] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:07] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:07] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:12] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:16] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:17] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:20] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:21] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:23] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:24] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:27] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:28] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:30] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:31] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:36] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:41] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:43] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:48] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:51] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:52] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:57] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
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Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:39] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:44] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:46] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

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Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:56] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:01] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:02] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:06] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:07] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:11] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:12] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:16] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:17] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:20] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:21] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:27] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:34] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:35] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:38] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:39] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:43] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:44] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:47] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:48] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:54] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:55] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.



Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:33] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:38] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:41] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:42] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:46] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:51] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:54] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:59] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:35:03] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:35:08] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:35:09] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:23] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:23] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:24] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.



[17:32:46] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:47] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:50] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:50] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:53] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:54] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:57] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:58] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:04] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:11] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:12] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:15] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:16] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:20] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:21] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9

Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:24] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:25] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:30] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:31] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:34] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:35] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:41] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:47] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:48] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:53] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:58] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:03] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:07] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:09] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.



[17:34:14] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:16] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:17] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:20] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:21] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:24] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:24] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:29] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:34] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:37] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:41] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:44] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:45] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:50] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.





[17:32:49] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:54] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:00] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:06] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:07] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:11] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:12] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:18] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:24] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:25] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:30] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:31] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:34] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:35] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.





[17:34:47] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:52] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:56] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:35:01] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:35:02] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:35:04] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:35:05] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:35:08] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:35:09] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:23] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:23] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:24] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:24] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:24] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.





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[17:33:07] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:11] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:12] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:19] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:25] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:29] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:35] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:41] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:48] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:54] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:55] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:57] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:58] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:00] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9



[17:34:32] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:37] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:37] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:40] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:41] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:44] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:45] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:47] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:48] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:53] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:57] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:58] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:35:01] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:35:02] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.





[17:45:31] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:34] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:37] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:38] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:38] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:43] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:47] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:50] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:50] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:53] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:54] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:58] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:01] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:02] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:06] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:07] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:10] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:17] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:23] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:31] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:34] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:40] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:46] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:55] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:57] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:01] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:06] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:10] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:13] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-

Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:14] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:17] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:19] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:24] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:27] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:28] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:32] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:37] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:38] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:43] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:48] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:50] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:55] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:35:00] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.







Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:30] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:43] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:48] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:52] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:32:57] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:03] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:10] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:16] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:20] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:21] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:25] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:26] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:33] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:38] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:39] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:43] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:44] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:47] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:48] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:54] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:55] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:00] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:04] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:06] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:11] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:13] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:14] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:19] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:24] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:26] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:31] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:36] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:40] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:41] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:44] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:45] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:47] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:48] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:51] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:52] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:55] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:55] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:35:00] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9





[17:45:31] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:31] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:02] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:03] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:07] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:08] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:14] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:20] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:24] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:31] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:37] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:42] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:43] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:47] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.



[17:33:48] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:54] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:55] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:59] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:03] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:04] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:06] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:07] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:10] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:11] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:15] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:20] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:21] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:25] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:30] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-

Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:31] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:33] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:34] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:37] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:38] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:40] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:41] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:44] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:45] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:49] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:54] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:55] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:58] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:58] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.





Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:31] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:31] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:40] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

Fitting 5 folds for each of 162 candidates, totalling 810 fits

[17:33:15] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:21] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:27] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:35] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:38] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:44] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:53] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:58] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:00] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:04] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:09] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:13] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:16] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:21] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:23] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:24] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:29] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:33] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:34] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:37] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:38] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:41] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:41] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:46] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.









[17:45:33] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:33] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:33] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:33] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:33] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:13] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:20] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:26] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:33] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:39] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:42] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:48] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:33:57] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:34:01] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.























[17:45:28] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:29] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:29] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:29] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:30] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:30] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:31] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:31] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
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Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:32] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.















[17:45:35] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:36] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

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Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:38] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:38] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

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Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

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Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.



























































Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:46] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
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Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:48] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

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[17:45:48] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:01] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

Fitting 5 folds for each of 162 candidates, totalling 810 fits

[17:45:31] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:31] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.















[17:45:34] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:35] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:35] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:35] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:36] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:36] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:36] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:37] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:37] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:37] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:37] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:37] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:37] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:38] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:38] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:38] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:38] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:39] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:39] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:39] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:39] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:40] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:40] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:40] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:41] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9









[17:45:38] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:38] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:38] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:38] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:39] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:39] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:39] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
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[17:45:39] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:40] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:40] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
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[17:45:45] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
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[17:45:46] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:47] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:47] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:48] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:48] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
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[17:45:49] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
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Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:50] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
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[17:45:49] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
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[17:45:52] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
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[17:45:52] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
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[17:45:53] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:53] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.





[17:45:49] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
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[17:45:51] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
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[17:45:52] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
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[17:45:53] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
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Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:53] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:53] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:54] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.





















[17:45:59] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:59] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:59] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:00] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:00] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:01] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:01] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:01] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:01] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:01] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:02] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:02] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:02] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.











[17:45:56] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:56] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:56] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:57] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:57] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:57] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:57] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:57] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:58] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:58] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:59] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:59] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:59] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.





























[17:46:05] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:09] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

Fitting 5 folds for each of 162 candidates, totalling 810 fits

[17:45:49] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:50] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:50] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:50] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:51] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:51] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
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[17:45:51] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:52] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:52] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:52] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:53] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:53] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9











[17:45:51] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
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[17:45:52] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
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[17:45:54] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
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[17:45:55] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
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[17:45:55] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:45:56] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-







[17:46:02] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:02] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:02] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:02] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:03] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:03] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:03] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
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[17:46:03] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
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[17:46:03] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:04] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:04] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
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[17:46:04] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-



























Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

```
[17:46:02] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9
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[17:46:01] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:01] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:01] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:01] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:01] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
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[17:46:07] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:07] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:07] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:08] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:08] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
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[17:46:08] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
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[17:46:08] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
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[17:46:08] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
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[17:46:09] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:09] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:09] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:10] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:11] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.























[17:46:23] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:23] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:24] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:24] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:25] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:25] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:25] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:26] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:04] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:04] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
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[17:46:04] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
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[17:46:04] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:05] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
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[17:46:09] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
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[17:46:10] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
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[17:46:10] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
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[17:46:10] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:11] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:12] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:12] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:13] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:13] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:13] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:14] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:14] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:14] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.



[17:46:03] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:04] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
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[17:46:08] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:08] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
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Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:09] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:09] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:10] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:11] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:12] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:12] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:12] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:13] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-













[17:46:19] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:19] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:20] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:20] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:21] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:21] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:22] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:22] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:22] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:23] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:53] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

Fitting 5 folds for each of 162 candidates, totalling 810 fits

[17:46:05] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:05] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.







[17:46:08] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:08] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:08] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:08] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:08] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:09] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:09] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:09] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:10] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:10] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:10] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:10] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:11] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.



Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:19] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:20] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:20] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:20] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:21] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:21] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:22] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:23] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:23] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:24] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:25] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:26] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:05] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:05] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9



[17:46:08] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:08] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:08] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

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Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

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Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:09] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:10] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:11] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:11] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:11] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:11] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.





[17:46:25] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:25] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:26] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:28] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:29] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:29] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:31] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:32] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:32] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:33] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:34] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:34] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:35] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:04] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.















[17:46:07] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:07] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:07] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:07] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:07] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:08] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:08] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:08] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:08] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:08] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:08] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:09] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.







[17:46:32] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:34] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:34] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:35] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:37] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:37] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:38] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:39] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:40] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:40] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:41] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:41] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:42] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:42] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.









Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

```
[17:46:28] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9
Parameters: { "max_features", "min_samples_leaf", "min_samples_split" } are not used.
```

```
[17:46:31] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-
Parameters: { "max_features", "min_samples_leaf", "min_samples_split" } are not used.
```

```
[17:46:33] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9
Parameters: { "max_features", "min_samples_leaf", "min_samples_split" } are not used.
```

```
[17:46:35] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-
Parameters: { "max_features", "min_samples_leaf", "min_samples_split" } are not used.
```

```
[17:46:38] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-
Parameters: { "max_features", "min_samples_leaf", "min_samples_split" } are not used.
```

```
[17:46:40] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9
Parameters: { "max_features", "min_samples_leaf", "min_samples_split" } are not used.
```

```
[17:46:42] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9
Parameters: { "max_features", "min_samples_leaf", "min_samples_split" } are not used.
```

[17:46:08] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:08] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
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[17:46:08] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:09] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:09] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:09] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:10] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:10] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:11] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:11] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:11] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:12] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9-





















Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:47:11] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:47:12] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:47:15] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:47:16] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:47:17] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:47:23] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:47:29] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:47:32] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:47:33] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:47:37] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:47:38] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:47:41] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:47:43] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:47:46] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.





[17:46:33] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:33] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:34] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:35] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:37] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:37] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:38] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:39] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:40] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:41] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:42] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:44] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:45] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:47] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:48] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:49] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:49] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:50] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:50] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:51] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:51] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:53] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:56] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:59] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:47:00] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:47:06] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:47:12] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:47:13] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:47:18] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9

Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:47:24] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:47:27] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:47:28] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:47:29] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:47:36] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:47:43] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:47:46] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:47:47] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:47:50] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:47:51] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:47:53] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:47:54] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:47:58] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:48:03] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.









[17:46:51] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:51] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:53] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:56] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:59] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:47:00] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:47:03] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:47:04] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:47:07] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:47:08] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:47:11] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:47:17] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:47:23] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:47:28] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:47:32] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9

Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:47:39] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:47:45] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:47:51] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:47:51] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:47:57] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:48:03] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:48:06] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:48:07] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:48:11] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:48:15] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:48:23] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:48:30] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:48:39] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:48:40] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.





[17:46:41] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:42] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:43] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:44] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:46] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:47] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:48] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:48] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:48] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:49] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:49] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:51] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:53] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:46:54] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.



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[17:47:55] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:48:01] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:48:07] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:48:11] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:48:12] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:48:16] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:48:18] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:48:22] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:48:23] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:48:31] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:48:40] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:48:44] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:48:54] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.

[17:49:00] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9  
Parameters: { "max\_features", "min\_samples\_leaf", "min\_samples\_split" } are not used.



```
[17:51:39] WARNING: /Users/runner/work/xgboost/xgboost/python-package/build/temp.macosx-10.9
Parameters: { "max_features", "min_samples_leaf", "min_samples_split" } are not used.
```

Fitting 5 folds for each of 400 candidates, totalling 2000 fits

Fitting 5 folds for each of 400 candidates, totalling 2000 fits

Fitting 5 folds for each of 400 candidates, totalling 2000 fits

Fitting 5 folds for each of 400 candidates, totalling 2000 fits

Fitting 5 folds for each of 400 candidates, totalling 2000 fits

Fitting 5 folds for each of 18 candidates, totalling 90 fits

Fitting 5 folds for each of 18 candidates, totalling 90 fits

Fitting 5 folds for each of 18 candidates, totalling 90 fits

Fitting 5 folds for each of 18 candidates, totalling 90 fits

Fitting 5 folds for each of 18 candidates, totalling 90 fits

## 2 RESULTS

```
# PLOT ROC CURVES
for model in models_results:
    print(model)
    print(models_results[model])
    roc_curves = models_results[model]
    roc_curve = mu.plot_all_roc_curves(roc_curves=roc_curves, model_name=model)
```

k-NN

	model_name	fpr	tpr	auc	
0	k-NN_molecular_descriptors_pca	0.000000	0.0	0.62	
1	k-NN_molecular_descriptors_pca	0.366667	0.6	0.62	
2	k-NN_molecular_descriptors_pca	1.000000	1.0	0.62,	model_name
0	k-NN_molecular_descriptors_filter	0.000000	0.0	0.72	
1	k-NN_molecular_descriptors_filter	0.366667	0.8	0.72	
2	k-NN_molecular_descriptors_filter	1.000000	1.0	0.72,	
0	k-NN_molecular_descriptors_genetic_selection	0.000000	0.0	0.77	
1	k-NN_molecular_descriptors_genetic_selection	0.166667	0.7	0.77	
2	k-NN_molecular_descriptors_genetic_selection	1.000000	1.0	0.77,	model_name
0	k-NN_maccs_keys	0.000000	0.000000	0.7	
1	k-NN_maccs_keys	0.419355	0.827586	0.7	
2	k-NN_maccs_keys	1.000000	1.000000	0.7,	model_name fpr tpr
0	k-NN_ecfp4_fingerprints	0.000000	0.000000	0.78	
1	k-NN_ecfp4_fingerprints	0.225806	0.793103	0.78	
2	k-NN_ecfp4_fingerprints	1.000000	1.000000	0.78]	

Naive\_Bayes

	model_name	fpr	tpr	auc	
0	Naive_Bayes_molecular_descriptors_pca	0.0	0.0	0.65	
1	Naive_Bayes_molecular_descriptors_pca	0.5	0.8	0.65	
2	Naive_Bayes_molecular_descriptors_pca	1.0	1.0	0.65,	mo
0	Naive_Bayes_molecular_descriptors_filter	0.000000	0.0	0.58	
1	Naive_Bayes_molecular_descriptors_filter	0.333333	0.5	0.58	
2	Naive_Bayes_molecular_descriptors_filter	1.000000	1.0	0.58,	
0	Naive_Bayes_molecular_descriptors_genetic_sele...	0.000000	0.0	0.68	
1	Naive_Bayes_molecular_descriptors_genetic_sele...	0.233333	0.6	0.68	
2	Naive_Bayes_molecular_descriptors_genetic_sele...	1.000000	1.0	0.68,	mo
0	Naive_Bayes_maccs_keys	0.000000	0.000000	0.71	
1	Naive_Bayes_maccs_keys	0.193548	0.62069	0.71	
2	Naive_Bayes_maccs_keys	1.000000	1.000000	0.71,	model_name
0	Naive_Bayes_ecfp4_fingerprints	0.000000	0.000000	0.78	
1	Naive_Bayes_ecfp4_fingerprints	0.225806	0.793103	0.78	
2	Naive_Bayes_ecfp4_fingerprints	1.000000	1.000000	0.78]	

SVM

	model_name	fpr	tpr	auc	
0	SVM_molecular_descriptors_pca	0.000000	0.0	0.63	
1	SVM_molecular_descriptors_pca	0.633333	0.9	0.63	
2	SVM_molecular_descriptors_pca	1.000000	1.0	0.63,	model_name
0	SVM_molecular_descriptors_filter	0.000000	0.0	0.72	
1	SVM_molecular_descriptors_filter	0.366667	0.8	0.72	
2	SVM_molecular_descriptors_filter	1.000000	1.0	0.72,	
0	SVM_molecular_descriptors_genetic_selection	0.000000	0.0	0.73	

1	SVM_molecular_descriptors_genetic_selection	0.233333	0.7	0.73			
2	SVM_molecular_descriptors_genetic_selection	1.000000	1.0	0.73,	model_name		
0	SVM_maccs_keys	0.000000	0.000000	0.83			
1	SVM_maccs_keys	0.129032	0.793103	0.83			
2	SVM_maccs_keys	1.000000	1.000000	0.83,	model_name	fpr	tpr
0	SVM_ecfp4_fingerprints	0.000000	0.000000	0.85			
1	SVM_ecfp4_fingerprints	0.129032	0.827586	0.85			
2	SVM_ecfp4_fingerprints	1.000000	1.000000	0.85]			

Random\_Forest

	model_name	fpr	tpr	auc
0	Random_Forest_molecular_descriptors_pca	0.000000	0.000000	0.67
1	Random_Forest_molecular_descriptors_pca	0.433333	0.766667	0.67
2	Random_Forest_molecular_descriptors_pca	1.000000	1.000000	0.67,
0	Random_Forest_molecular_descriptors_filter	0.000000	0.000000	0.75
1	Random_Forest_molecular_descriptors_filter	0.133333	0.633333	0.75
2	Random_Forest_molecular_descriptors_filter	1.000000	1.000000	0.75,
0	Random_Forest_molecular_descriptors_genetic_se...	0.0	0.000000	0.72
1	Random_Forest_molecular_descriptors_genetic_se...	0.1	0.533333	0.72
2	Random_Forest_molecular_descriptors_genetic_se...	1.0	1.000000	0.72,
0	Random_Forest_maccs_keys	0.000000	0.000000	0.78
1	Random_Forest_maccs_keys	0.225806	0.793103	0.78
2	Random_Forest_maccs_keys	1.000000	1.000000	0.78,
0	Random_Forest_ecfp4_fingerprints	0.000000	0.000000	0.75
1	Random_Forest_ecfp4_fingerprints	0.258065	0.758621	0.75
2	Random_Forest_ecfp4_fingerprints	1.000000	1.000000	0.75]

XGBoost

	model_name	fpr	tpr	auc
0	XGBoost_molecular_descriptors_pca	0.0	0.000000	0.73
1	XGBoost_molecular_descriptors_pca	0.2	0.666667	0.73
2	XGBoost_molecular_descriptors_pca	1.0	1.000000	0.73,
0	XGBoost_molecular_descriptors_filter	0.000000	0.000000	0.6
1	XGBoost_molecular_descriptors_filter	0.266667	0.466667	0.6
2	XGBoost_molecular_descriptors_filter	1.000000	1.000000	0.6,
0	XGBoost_molecular_descriptors_genetic_selection	0.000000	0.000000	0.68
1	XGBoost_molecular_descriptors_genetic_selection	0.266667	0.633333	0.68
2	XGBoost_molecular_descriptors_genetic_selection	1.000000	1.000000	0.68,
0	XGBoost_maccs_keys	0.000000	0.000000	0.87
1	XGBoost_maccs_keys	0.129032	0.862069	0.87
2	XGBoost_maccs_keys	1.000000	1.000000	0.87,
0	XGBoost_ecfp4_fingerprints	0.000000	0.000000	0.85
1	XGBoost_ecfp4_fingerprints	0.16129	0.862069	0.85
2	XGBoost_ecfp4_fingerprints	1.000000	1.000000	0.85]

Logistic\_Regression

	model_name	fpr	tpr	auc
0	Logistic_Regression_molecular_descriptors_pca	0.0	0.0	0.65
1	Logistic_Regression_molecular_descriptors_pca	0.5	0.8	0.65
2	Logistic_Regression_molecular_descriptors_pca	1.0	1.0	0.65,
0	Logistic_Regression_molecular_descriptors_filter	0.000000	0.0	0.63
1	Logistic_Regression_molecular_descriptors_filter	0.333333	0.6	0.63
2	Logistic_Regression_molecular_descriptors_filter	1.000000	1.0	0.63,
0	Logistic_Regression_molecular_descriptors_gene...	0.0	0.000000	0.68
1	Logistic_Regression_molecular_descriptors_gene...	0.4	0.766667	0.68
2	Logistic_Regression_molecular_descriptors_gene...	1.0	1.000000	0.68,
0	Logistic_Regression_maccs_keys	0.000000	0.000000	0.81
1	Logistic_Regression_maccs_keys	0.129032	0.758621	0.81
2	Logistic_Regression_maccs_keys	1.000000	1.000000	0.81,
0	Logistic_Regression_ecfp4_fingerprints	0.000000	0.000000	0.85
1	Logistic_Regression_ecfp4_fingerprints	0.16129	0.862069	0.85
2	Logistic_Regression_ecfp4_fingerprints	1.000000	1.000000	0.85]

Ada\_Boost

	model_name	fpr	tpr	auc
0	Ada_Boost_molecular_descriptors_pca	0.0	0.000000	0.78
1	Ada_Boost_molecular_descriptors_pca	0.2	0.766667	0.78
2	Ada_Boost_molecular_descriptors_pca	1.0	1.000000	0.78,
0	Ada_Boost_molecular_descriptors_filter	0.000000	0.000000	0.48
1	Ada_Boost_molecular_descriptors_filter	0.866667	0.833333	0.48
2	Ada_Boost_molecular_descriptors_filter	1.000000	1.000000	0.48,
0	Ada_Boost_molecular_descriptors_genetic_selection	0.000000	0.000000	0.73
1	Ada_Boost_molecular_descriptors_genetic_selection	0.066667	0.533333	0.73
2	Ada_Boost_molecular_descriptors_genetic_selection	1.000000	1.000000	0.73,
0	Ada_Boost_maccs_keys	0.000000	0.000000	0.73
1	Ada_Boost_maccs_keys	0.290323	0.758621	0.73
2	Ada_Boost_maccs_keys	1.000000	1.000000	0.73,
0	Ada_Boost_ecfp4_fingerprints	0.000000	0.000000	0.8
1	Ada_Boost_ecfp4_fingerprints	0.225806	0.827586	0.8
2	Ada_Boost_ecfp4_fingerprints	1.000000	1.000000	0.8]

model\_name fpr















