Highlight Note

Running an Automated Machine Learning Experiment

To run an automated machine learning experiment, you can either use the user interface in Azure Machine Learning studio, or submit an experiment using the SDK.

Configuring an Automated Machine Learning Experiment

The user interface provides an intuitive way to select options for your automated machine learning experiment. When using the SDK, you have greater flexibility, and you can set experiment options using the **AutoMLConfig** class, as shown in the following example:

```
from azureml.train.automl import AutoMLConfig

automl_run_config = RunConfiguration(framework='python')
automl_config = AutoMLConfig(name='Automated ML Experiment',
                             task='classification',
                             primary_metric = 'AUC_weighted',
                             compute_target=aml_compute,
                             training_data = train_dataset,
                             validation_data = test_dataset,
                             label_column_name='Label',
                             featurization='auto',
                             iterations=12,
                             max_concurrent_iterations=4)
```

One of the most important settings you must specify is the **primary_metric**. This is the target performance metric for which the optimal model will be determined. Azure Machine Learning supports a set of named metrics for each type of task. To retrieve the list of metrics available for a particular task type, you can use the **get_primary_metrics** function as shown here:

```
from azureml.train.automl.utilities import get_primary_metrics

get_primary_metrics('classification')
```

More Information: You can find a full list of primary metrics and their definitions in **Understand automated machine learning results** in the documentation.

Submitting an Automated Machine Learning Experiment

You can submit an automated machine learning experiment like any other SDK-based experiment:

```
from azureml.core.experiment import Experiment

automl_experiment = Experiment(ws, 'automl_experiment')
automl_run = automl_experiment.submit(automl_config)
```