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Using script parameters

5 minutes

You can increase the flexibility of script-based experiments by using arguments to set variables in the script.

Working with script arguments

To use parameters in a script, you must use a library such as `argparse` to read the arguments passed to the script and assign them to variables. For example, the following script reads an argument named `--reg-rate`, which is used to set the regularization rate hyperparameter for the logistic regression algorithm used to train a model.

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```python
from azureml.core import Run
import argparse
import pandas as pd
import numpy as np
import joblib
import os
from sklearn.model_selection import train_test_split
from sklearn.linear_model import LogisticRegression

# Get the experiment run context
run = Run.get_context()

# Set regularization hyperparameter
parser = argparse.ArgumentParser()
parser.add_argument('--reg-rate', type=float, dest='reg_rate', default=0.01)
args = parser.parse_args()
reg = args.reg_rate

# Prepare the dataset
diabetes = pd.read_csv('data.csv')
X, y = data[['Feature1','Feature2','Feature3']].values, data['Label'].values
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.30)

# Train a logistic regression model
model = LogisticRegression(C=1/reg, solver="liblinear").fit(X_train, y_train)

# calculate accuracy
y_hat = model.predict(X_test)
acc = np.average(y_hat == y_test)
run.log('Accuracy', np.float(acc))
```

```python
# Save the trained model
os.makedirs('outputs', exist_ok=True)
joblib.dump(value=model, filename='outputs/model.pkl')

run.complete()
```

Passing arguments to an experiment script

To pass parameter values to a script being run in an experiment, you need to provide an **arguments** value containing a list of comma-separated arguments and their values to the **ScriptRunConfig**, like this:

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```python
# Create a script config
script_config = ScriptRunConfig(source_directory='training_folder',
                                script='training.py',
                                arguments = ['--reg-rate', 0.1],
                                environment=sklearn_env)
```

Next unit: Registering models

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