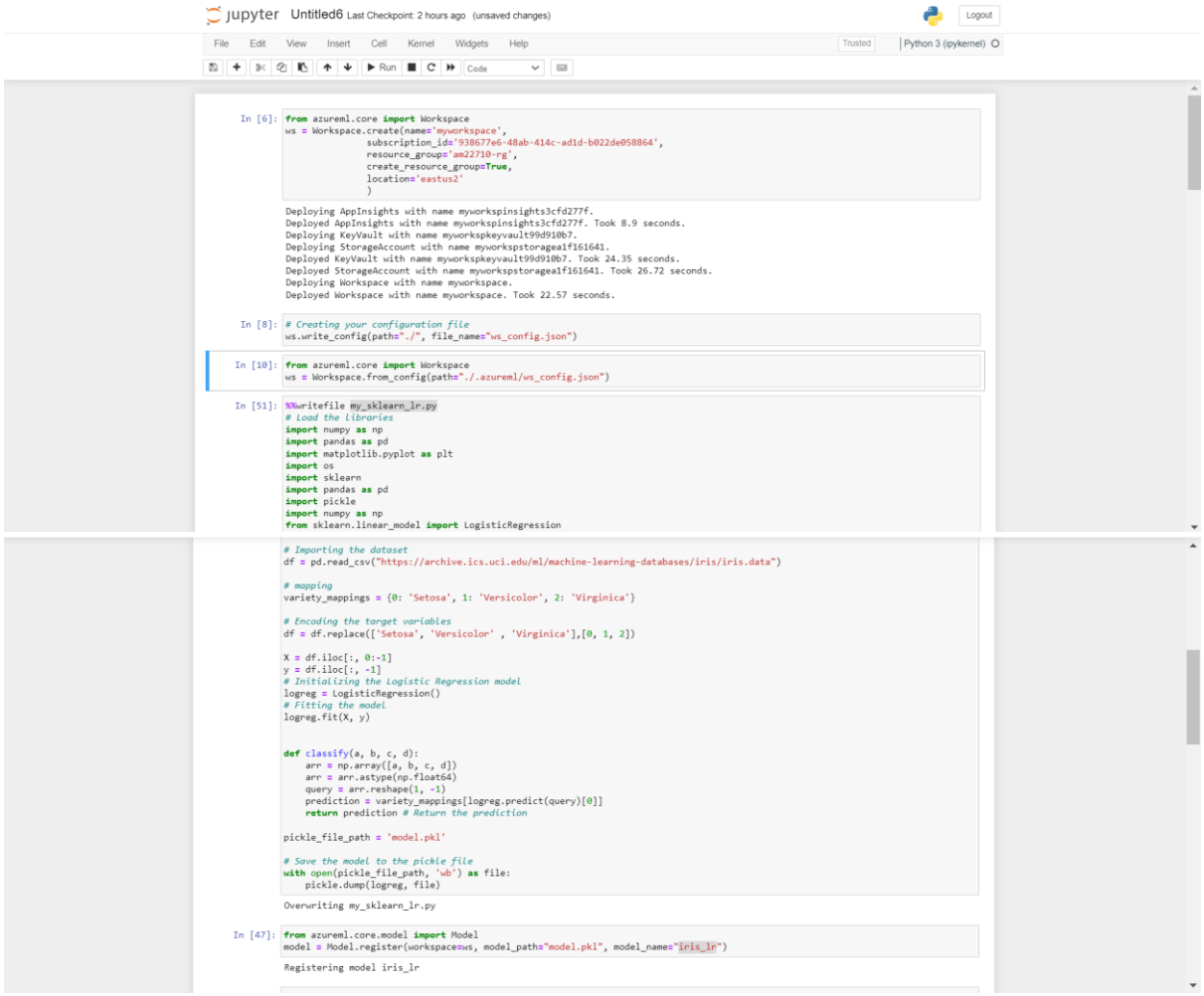
Name: Alankrita Mitra

Batch Code: LISUM21

Submission Date: 11/06/2023

Submitted to:

Screenshots:



jupyter Untitled6 Last Checkpoint: 2 hours ago (unsaved changes)

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Trusted | Python 3 (ipykernel)

Run Code

In [6]:
```
from azureml.core import Workspace
ws = Workspace.create(name='myworkspace',
                      subscription_id='938677e6-48ab-414c-ad1d-b022de058864',
                      resource_group='am22710-rg',
                      create_resource_group=True,
                      location='eastus2'
                      )
```

```
Deploying AppInsights with name myworkspinsights3cfd277f.
Deployed AppInsights with name myworkspinsights3cfd277f. Took 8.9 seconds.
Deploying KeyVault with name myworkspkeyvault99d910b7.
Deploying StorageAccount with name myworkspstorageaf161641.
Deployed KeyVault with name myworkspkeyvault99d910b7. Took 24.35 seconds.
Deployed StorageAccount with name myworkspstorageaf161641. Took 26.72 seconds.
Deploying Workspace with name myworkspace.
Deployed Workspace with name myworkspace. Took 22.57 seconds.
```

In [8]:
```
# Creating your configuration file
ws.write_config(path="./", file_name="ws_config.json")
```

In [10]:
```
from azureml.core import Workspace
ws = Workspace.from_config(path="./.azureml/ws_config.json")
```

In [51]:
```
%%writefile my_sklearn_lr.py
# Load the libraries
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import os
import sklearn
import pandas as pd
import pickle
import numpy as np
from sklearn.linear_model import LogisticRegression

# Importing the dataset
df = pd.read_csv("https://archive.ics.uci.edu/ml/machine-learning-databases/iris/iris.data")

# mapping
variety_mappings = {0: 'Setosa', 1: 'Versicolor', 2: 'Virginica'}

# Encoding the target variables
df = df.replace(['Setosa', 'Versicolor' , 'Virginica'],[0, 1, 2])

X = df.iloc[:, 0:-1]
y = df.iloc[:, -1]
# Initializing the Logistic Regression model
logreg = LogisticRegression()
# Fitting the model
logreg.fit(X, y)


def classify(a, b, c, d):
    arr = np.array([a, b, c, d])
    arr = arr.astype(np.float64)
    query = arr.reshape(1, -1)
    prediction = variety_mappings[logreg.predict(query)[0]]
    return prediction # Return the prediction

pickle_file_path = 'model.pkl'

# Save the model to the pickle file
with open(pickle_file_path, 'wb') as file:
    pickle.dump(logreg, file)
```

```
Overwriting my_sklearn_lr.py
```

In [47]:
```
from azureml.core.model import Model
model = Model.register(workspace=ws, model_path="model.pkl", model_name="iris_lr")
```

```
Registering model iris_lr
```

In [48]:
```
from azureml.core.runconfig import RunConfiguration
from azureml.core.compute import AmlCompute

list_vms = AmlCompute.supported_vmsizes(workspace=ws)
print(list_vms)
```


{'name': 'Standard_D12', 'vCPUs': 4, 'gpus': 0, 'memoryGB': 28.0, 'maxResourceVolumeMB': 204800}, {'name': 'Standard_D12_v2', 'vCPUs': 4, 'gpus': 0, 'memoryGB': 28.0, 'maxResourceVolumeMB': 204800}, {'name': 'Standard_D13', 'vCPUs': 8, 'gpus': 0, 'memoryGB': 56.0, 'maxResourceVolumeMB': 409600}, {'name': 'Standard_D13_v2', 'vCPUs': 8, 'gpus': 0, 'memoryGB': 56.0, 'maxResourceVolumeMB': 409600}, {'name': 'Standard_D14', 'vCPUs': 16, 'gpus': 0, 'memoryGB': 112.0, 'maxResourceVolumeMB': 819200}, {'name': 'Standard_D14_v2', 'vCPUs': 16, 'gpus': 0, 'memoryGB': 112.0, 'maxResourceVolumeMB': 819200}, {'name': 'Standard_D15_v2', 'vCPUs': 20, 'gpus': 0, 'memoryGB': 140.0, 'maxResourceVolumeMB': 1024000}, {'name': 'Standard_D16ads_v5', 'vCPUs': 16, 'gpus': 0, 'memoryGB': 64.0, 'maxResourceVolumeMB': 614400}, {'name': 'Standard_D16as_v4', 'vCPUs': 16, 'gpus': 0, 'memoryGB': 64.0, 'maxResourceVolumeMB': 131072}, {'name': 'Standard_D16a_v4', 'vCPUs': 16, 'gpus': 0, 'memoryGB': 64.0, 'maxResourceVolumeMB': 409600}, {'name': 'Standard_D16ds_v4', 'vCPUs': 16, 'gpus': 0, 'memoryGB': 64.0, 'maxResourceVolumeMB': 614400}, {'name': 'Standard_D16ds_v5', 'vCPUs': 16, 'gpus': 0, 'memoryGB': 64.0, 'maxResourceVolumeMB': 614400}, {'name': 'Standard_D16d_v4', 'vCPUs': 16, 'gpus': 0, 'memoryGB': 64.0, 'maxResourceVolumeMB': 614400}, {'name': 'Standard_D16s_v3', 'vCPUs': 16, 'gpus': 0, 'memoryGB': 64.0, 'maxResourceVolumeMB': 131072}, {'name': 'Standard_D16_v3', 'vCPUs': 16, 'gpus': 0, 'memoryGB': 64.0, 'maxResourceVolumeMB': 409600}, {'name': 'Standard_D1_v2', 'vCPUs': 1, 'gpus': 0, 'memoryGB': 3.5, 'maxResourceVolumeMB': 51200}, {'name': 'Standard_D2', 'vCPUs': 2, 'gpus': 0, 'memoryGB': 7.0, 'maxResourceVolumeMB': 102400}, {'name': 'Standard_D2ads_v5', 'vCPUs': 2, 'gpus': 0, 'memoryGB': 8.0, 'maxResourceVolumeMB': 76800}, {'name': 'Standard_D2as_v4', 'vCPUs': 2, 'gpus': 0, 'memoryGB': 8.0, 'maxResourceVolumeMB': 16384}, {'name': 'Standard_D2a_v4', 'vCPUs': 2, 'gpus': 0, 'memoryGB': 8.0, 'maxResourceVolumeMB': 51200}, {'name': 'Standard_D2ds_v4', 'vCPUs': 2, 'gpus': 0, 'memoryGB': 8.0, 'maxResourceVolumeMB': 76800}, {'name': 'Standard_D2ds_v5', 'vCPUs': 2, 'gpus': 0, 'memoryGB': 8.0, 'maxResourceVolumeMB': 76800}, {'name': 'Standard_D2d_v4', 'vCPUs': 2, 'gpus': 0, 'memoryGB': 8.0, 'maxResourceVolumeMB': 76800}, {'name': 'Standard_D2

In [67]:
```
# Create an AmlCompute cluster
from azureml.core.compute import AmlCompute, ComputeTarget
from azureml.core.runconfig import RunConfiguration
cluster_name = "my-cluster"
compute_config = AmlCompute.provisioning_configuration(vm_size="Standard_DS1_v2", min_nodes=0, max_nodes=4)

compute_target = ComputeTarget.create(ws, cluster_name, compute_config)
compute_target.wait_for_completion(show_output=True)

# Create a run configuration and set the compute target
run_config = RunConfiguration()
```


8': 16.0, 'maxResourceVolumeMB': 153600}, {'name': 'Standard_D4as_v4', 'vCPUs': 4, 'gpus': 0, 'memoryGB': 16.0, 'maxResourceVolumeMB': 32768}, {'name': 'Standard_D4a_v4', 'vCPUs': 4, 'gpus': 0, 'memoryGB': 16.0, 'maxResourceVolumeMB': 102400}, {'name': 'Standard_D4ds_v4', 'vCPUs': 4, 'gpus': 0, 'memoryGB': 16.0, 'maxResourceVolumeMB': 153600}, {'name': 'Standard_D4ds_v5', 'vCPUs': 4, 'gpus': 0, 'memoryGB': 16.0, 'maxResourceVolumeMB': 153600}, {'name': 'Standard_D4d_v4', 'vCPUs': 4, 'gpus': 0, 'memoryGB': 16.0, 'maxResourceVolumeMB': 153600}, {'name': 'Standard_D4s_v3', 'vCPUs': 4, 'gpus': 0, 'memoryGB': 16.0, 'maxResourceVolumeMB': 32768}, {'name': 'Standard_D4_v2', 'vCPUs': 8, 'gpus': 0, 'memoryGB': 28.0, 'maxResourceVolumeMB': 409600}, {'name': 'Standard_D4_v3', 'vCPUs': 4, 'gpus': 0, 'memoryGB': 16.0, 'maxResourceVolumeMB': 102400}, {'name': 'Standard

In [67]:
```
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from azureml.core.runconfig import RunConfiguration
cluster_name = "my-cluster"
compute_config = AmlCompute.provisioning_configuration(vm_size="Standard_DS1_v2", min_nodes=0, max_nodes=4)

compute_target = ComputeTarget.create(ws, cluster_name, compute_config)
compute_target.wait_for_completion(show_output=True)

# Create a run configuration and set the compute target
run_config = RunConfiguration()
run_config.target = compute_target
```
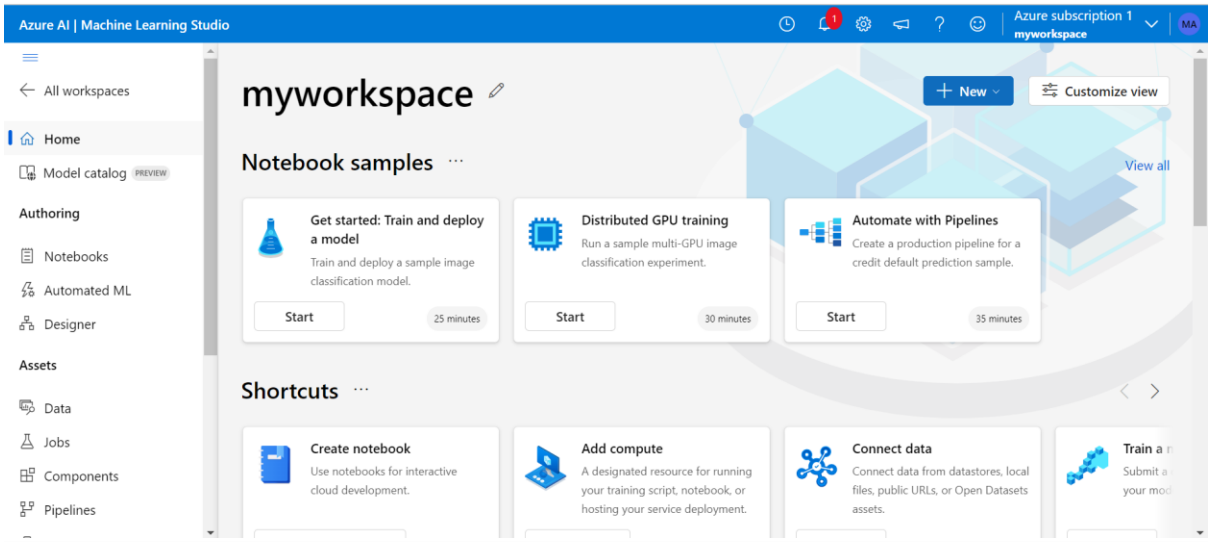

```
InProgress.
SucceededProvisioning operation finished, operation "Succeeded"
Succeeded
AmlCompute wait for completion finished

Minimum number of nodes requested have been provisioned
```

In [72]:
```
from azureml.core.experiment import Experiment
from azureml.core import ScriptRunConfig
# The script you specify here is the one you wrote to train your linear model
#script_run_config = ScriptRunConfig(source_directory="D:\AM\Week 4", run_config=compute_config)
experiment = Experiment(workspace=ws, name="iris_lr")
#run = experiment.submit(config=script_run_config)
#run.wait_for_completion(show_output=True)
```

In [34]:
```
pip install scikit-learn
```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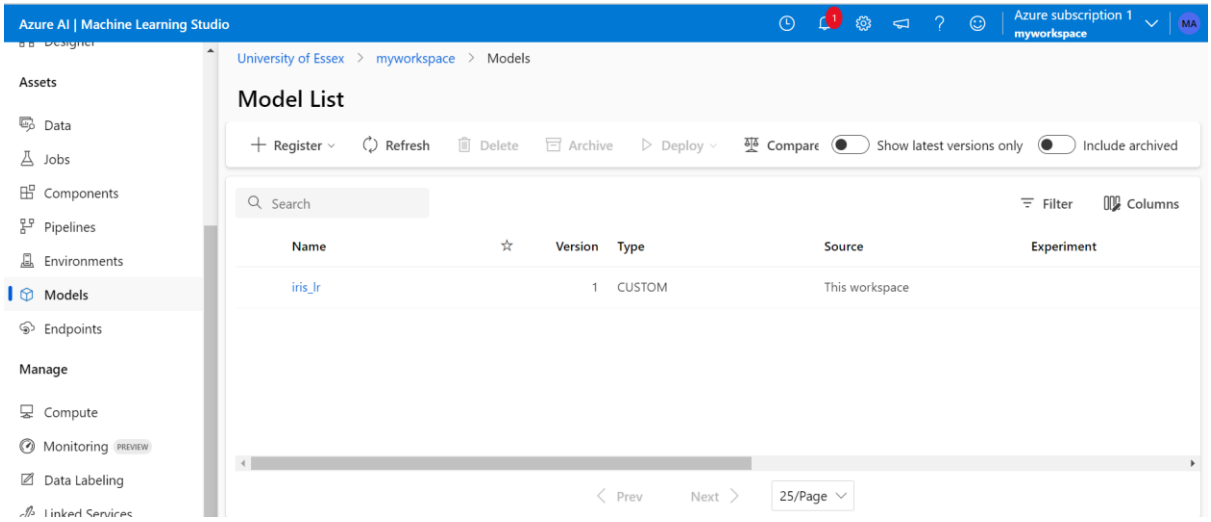
Notebook samples
View all
Get started: Train and deploy a model
Train and deploy a sample image classification model.
Start
25 minutes
Distributed GPU training
Run a sample multi-GPU image classification experiment.
Start
30 minutes
Automate with Pipelines
Create a production pipeline for a credit default prediction sample.
Start
35 minutes
Shortcuts
Create notebook
Use notebooks for interactive cloud development.
Add compute
A designated resource for running your training script, notebook, or hosting your service deployment.
Connect data
Connect data from datastores, local files, public URLs, or Open Datasets assets.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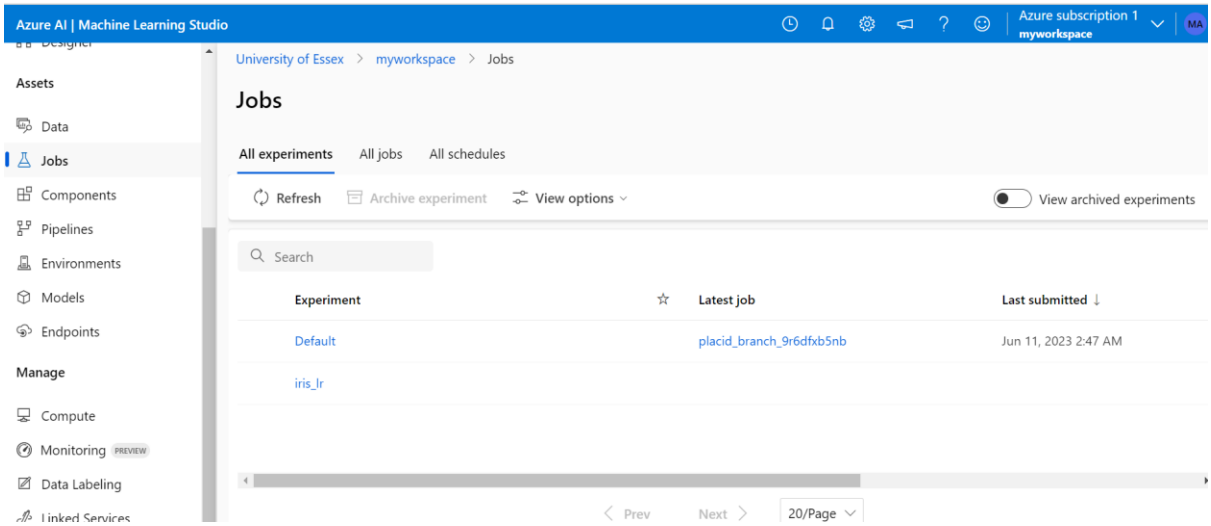
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View options
View archived experiments
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