TRAIN THE MODEL ON IBM

Date	10/11/2022
Team ID	PNT2022TMID42999
Project Name	AI-powered Nutrition Analyzer for Fitness Enthusiasts
Maximum Marks	4 Marks

```
In [41]: client.software_specifications.list()
```

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NAME                              ASSET_ID                              TYPE
default_py3.6                     0062b8c9-8b7d-44a0-a9b9-46c416adcbd9   base
kernel-spark3.2-scala2.12         020d69ce-7ac1-5e68-ac1a-31189867356a   base
pytorch-onnx_1.3-py3.7-edt        069ea134-3346-5748-b513-49120e15d288   base
scikit-learn_0.20-py3.6           09c5a1d0-9c1e-4473-a344-eb7b665ff687   base
spark-mllib_3.0-scala_2.12        09f4cff0-90a7-5899-b9ed-1ef348aebdee   base
pytorch-onnx_rt22.1-py3.9         0b848dd4-e681-5599-be41-b5f6fccc6471   base
ai-function_0.1-py3.6             0cdb0f1e-5376-4f4d-92dd-da3b69aa9bda   base
shiny-r3.6                        0e6e79df-875e-4f24-8ae9-62dcc2148306   base
tensorflow_2.4-py3.7-horovod      1092590a-307d-563d-9b62-4eb7d64b3f22   base
pytorch_1.1-py3.6                 10ac12d6-6b30-4ccd-8392-3e922c096a92   base
tensorflow_1.15-py3.6-ddl         111e41b3-de2d-5422-a4d6-bf776828c4b7   base
autoai-kb_rt22.2-py3.10           125b6d9a-5b1f-5e8d-972a-b251688ccf40   base
runtime-22.1-py3.9                12b83a17-24d8-5082-900f-0ab31fbfd3cb   base
scikit-learn_0.22-py3.6           154010fa-5b3b-4ac1-82af-4d5ee5abbc85   base
default_r3.6                      1b70aec3-ab34-4b87-8aa0-a4a3c8296a36   base
pytorch-onnx_1.3-py3.6            1bc6029a-cc97-56da-b8e0-39c3880dbbe7   base
kernel-spark3.3-r3.6              1c9e5454-f216-59dd-a20e-474a5cdf5988   base
pytorch-onnx_rt22.1-py3.9-edt     1d362186-7ad5-5b59-8b6c-9d0880bde37f   base
tensorflow_2.1-py3.6              1eb25b84-d6ed-5dde-b6a5-3fbdf1665666   base
spark-mllib_3.2                   20047f72-0a98-58c7-9ff5-a77b012eb8f5   base
tensorflow_2.4-py3.8-horovod      217c16f6-178f-56bf-824a-b19f20564c49   base
runtime-22.1-py3.9-cuda           26215f05-08c3-5a41-a1b0-da66306ce658   base
do_py3.8                          295addb5-9ef9-547e-9bf4-92ae3563e720   base
autoai-ts_3.8-py3.8               2aa0c932-798f-5ae9-abd6-15e0c2402fb5   base
tensorflow_1.15-py3.6             2b73a275-7cbf-420b-a912-eae7f436e0bc   base
kernel-spark3.3-py3.9             2b7961e2-e3b1-5a8c-a491-482c8368839a   base
pytorch_1.2-py3.6                 2c8ef57d-2687-4b7d-acce-01f94976dac1   base
spark-mllib_2.3                   2e51f700-bca0-4b0d-88dc-5c6791338875   base
pytorch-onnx_1.1-py3.6-edt        32983cea-3f32-4400-8965-dde874a8d67e   base
spark-mllib_3.0-py37              36507ebe-8770-55ba-ab2a-eafe787600e9   base
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                        autoai-ts_rt22.2-py3.10      396b2e83-0953-5b86-9a55-7ce1628a406f   base
                        xgboost_0.82-py3.6           39e31acd-5f30-41dc-ae44-60233c80306e   base
                        pytorch-onnx_1.2-py3.6-edt   40589d0e-7019-4e28-8daa-fb03b6f4fe12   base
                        pytorch-onnx_rt22.2-py3.10   40e73f55-783a-5535-b3fa-0c8b94291431   base
                        default_r36py38              41c247d3-45f8-5a71-b065-8580229facf0   base
                        autoai-ts_rt22.1-py3.9       4269d26e-07ba-5d40-8f66-2d495b0c71f7   base
                        autoai-obm_3.0               42b92e18-d9ab-567f-988a-4240ba1ed5f7   base
                        pmml-3.0_4.3                 493bcb95-16f1-5bc5-bee8-81b8af80e9c7   base
                        spark-mllib_2.4-r_3.6        49403dff-92e9-4c87-a3d7-a42d0021c095   base
                        xgboost_0.90-py3.6           4ff8d6c2-1343-4c18-85e1-689c965304d3   base
                        pytorch-onnx_1.1-py3.6       50f95b2a-bc16-43bb-bc94-b0bed208c60b   base
                        autoai-ts_3.9-py3.8          52c57136-80fa-572e-8728-a5e7cbb42cde   base
                        spark-mllib_2.4-scala_2.11   55a70f99-7320-4be5-9fb9-9edb5a443af5   base
                        spark-mllib_3.0              5c1b0ca2-4977-5c2e-9439-ffd44ea8ffe9   base
                        autoai-obm_2.0               5c2e37fa-80b8-5e77-840f-d912469614ee   base
                        spss-modeler_18.1            5c3cad7e-507f-4b2a-a9a3-ab53a21dee8b   base
                        cuda-py3.8                   5d3232bf-c86b-5df4-a2cd-7bb870a1cd4e   base
                        runtime-22.2-py3.10-xc       5e8cddff-db4a-5a6a-b8aa-2d4af9864dab   base
                        autoai-kb_3.1-py3.7          632d4b22-10aa-5180-88f0-f52dfb6444d7   base
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                        Note: Only first 50 records were displayed. To display more use 'limit' parameter.
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In [42]: model_details = client.repository.store_model(model='nutri-analyzer-model.tgz', meta_props={
             client.repository.ModelMetaNames.NAME: "CNN",
             client.repository.ModelMetaNames.SOFTWARE_SPEC_UID: software_spec_uid,
             client.repository.ModelMetaNames.TYPE: "tensorflow_2.7"})
         model_id = client.repository.get_model_id(model_details)
```

```
In [43]: import os, types
         import pandas as pd
         from botocore.client import Config
         import ibm_boto3
```

```
         def __iter__(self): return 0

         # @hidden_cell
         # The following code accesses a file in your IBM Cloud Object Storage. It includes your credentials.
         # You might want to remove those credentials before you share the notebook.
         cos_client = ibm_boto3.client(service_name='s3',
             ibm_api_key_id='wqDBzE9bN4SnEL6XUswnZeQS_55exh8NK80putx-L51r',
             ibm_auth_endpoint="https://iam.cloud.ibm.com/oidc/token",
             config=Config(signature_version='oauth'),
             endpoint_url='https://s3.private.us.cloud-object-storage.appdomain.cloud')

         bucket = 'na-donotdelete-pr-rwpgsl31avjqx7'
         object_key = 'Dataset.zip'

         streaming_body_2 = cos_client.get_object(Bucket=bucket, Key=object_key)['Body']

         # Your data file was loaded into a botocore.response.StreamingBody object.
         # Please read the documentation of ibm_boto3 and pandas to learn more about the possibilities to load the data.
         # ibm_boto3 documentation: https://ibm.github.io/ibm-cos-sdk-python/
         # pandas documentation: http://pandas.pydata.org/
         software_spec_uid = client.software_specifications.get_uid_by_name("tensorflow_rt22.1-py3.9")
         software_spec_uid
```

```
Out[43]: 'acd9c798-6974-5d2f-a657-ce06e986df4d'
```

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In [44]: model_id
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Out[44]: '889dabeb-a601-4588-af3c-5810c863fc10'
```

```
In [45]: client.repository.download(model_id,'nutrition.tar.gz')
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         Successfully saved model content to file: 'nutrition.tar.gz'
Out[45]: '/home/wsuser/work/nutrition.tar.gz'
```