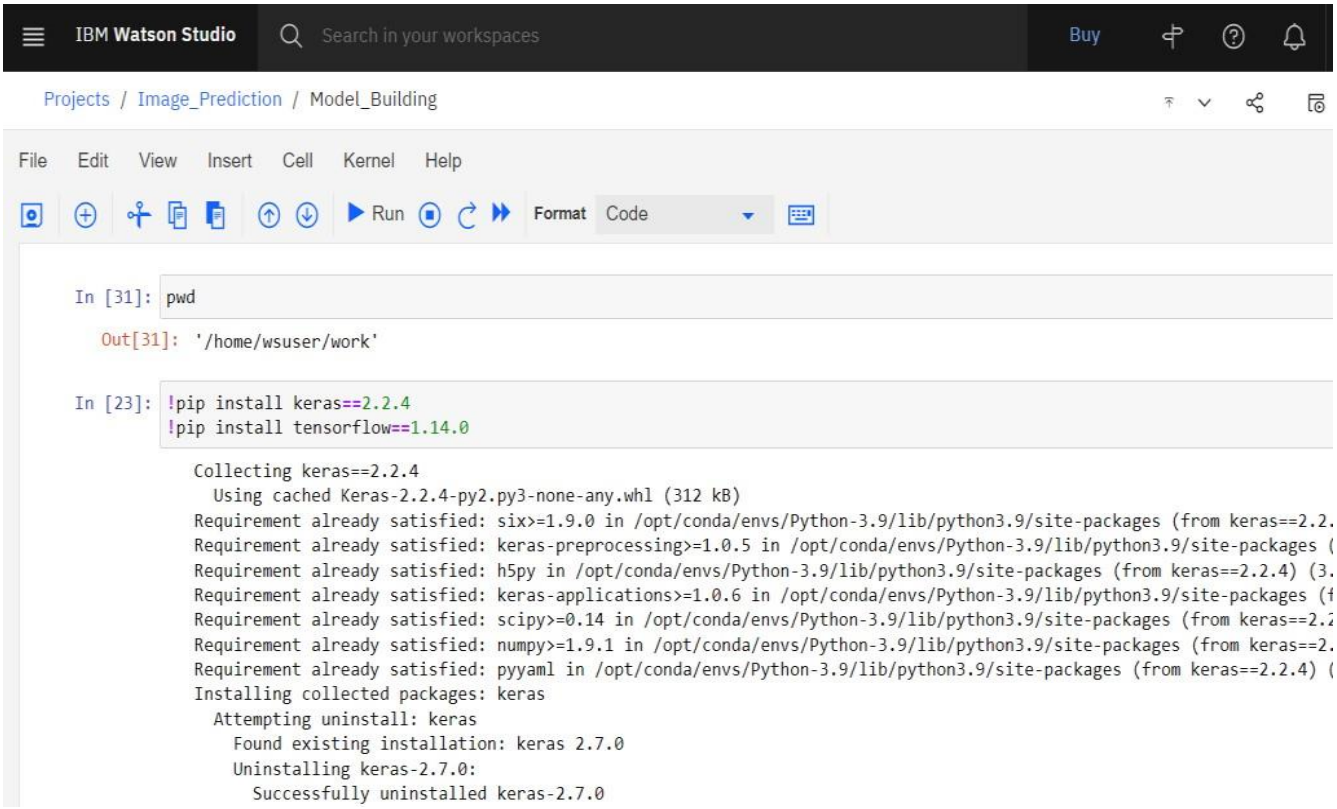
Sprint-4

Deployment – IBM Cloud

Date	10 November 2022
Team ID	PNT2022TMID12745
Project Name	AI-powered Nutrition Analyzer for Fitness Enthusiasts
Maximum Marks	



```
#Importing The ImageDataGenerator Library
train_datagen = ImageDataGenerator(rescale=1./255,shear_range=0.2,zoom_range=0.2,horizontal_flip=True)
test_datagen=ImageDataGenerator(rescale=1./255)
```

```
def __iter__(self): return 0
```

```
    endpoint_url='https://s3.private.us.cloud-object-sto ¿ · app1·  .  iu1
```

Applying Image DataGenerator Functionality To Trainset And Testset

```
filenames = os.listdir('/home/wsuser/work/Dataset/TRAIN_SET')
```

```
x_train = train_datagen.flow_from_directory('/home/wsuser/work/Dataset/TRAIN_SET',target_size=(64, 64),batch_size=5,color_mode='rgb',class_mode='sparse')
```

```
x_test = test_datagen.flow_from_directory('/ho  ·suser/work/Dataset/TEST_SET',target_size=(64, 64),batch_size=5,color_mode='rgb',class_mode='sparse')
```

```
Found 4118 images belonging to 5 classes.
Found 974 images belonging to 5 classes.
```

```
'PINEAPPLE': 3, 'WATERMELON': 4}
```

6 4 C g dalaplatfom.cloud.ibm.com/analytic/notebaks/v2/47R12e3-3c3c-4e1Z-8e38-f0e76co5d874°projectid-ba65'ibdc-adf&41cd—bd9d 1c92e18315d7&contat-cpdaas g4 Q LQ A .

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3. Addng Layers

```
In [44]: # Initializing the CNN
         classifier = Sequential()

         classifier.add(Conv2D(32, (3, 3), input_shape=(64, 64, 3), activation='relu'))
         classifier.add(MaxPooling2D(pool_size=(2, 2)))

         # Second convolution layer and pooling
         classifier.add(Conv2D(32, (3, 3), activation='relu'))

         # input_shape is going to be the pooled feature maps from the previous convolution layer
         classifier.add(MaxPooling2D(pool_size=(2, 2)))

         classifier.add(Flatten())
```

^. Addng Dense Laye‹s

```
In [45]: classifier.add(Dense(units=128, activation='relu'))
         classifier.add(Dense(units=5, activation='softmax'))

         classifier.summary()
```

6 4 fl g dataplaflc›rm.cIouo.ibm.conv'anaIyticsYnoteboob/v2/475612e3-3c3c-4e12-8e38-I0e76co5d874'projeclio -ba65Sbdc-adf6-41cd-bd9d-1c92e18315d7Bantext=cpdaas ⌊4 Q k |*§ J .

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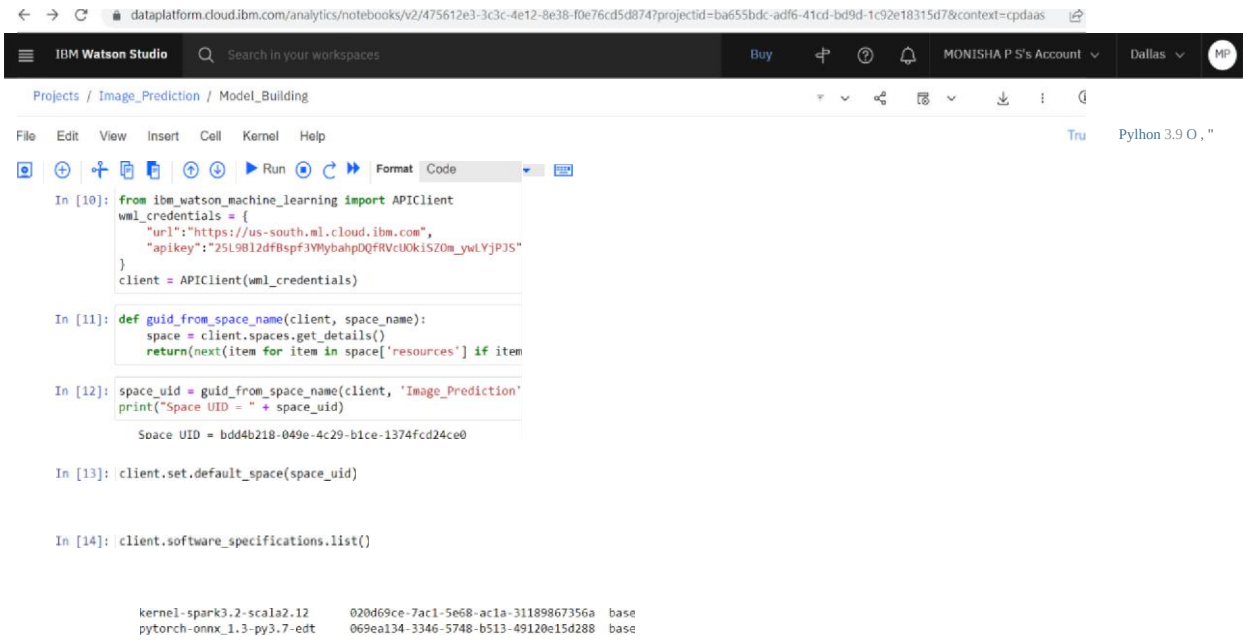
```
nd will be removed in a future version. Please use `Model.fit`, which supports generators.

824/824 [= ================ =-- 46s 55ns/step-       BfvWt ac<ura<y: 0?499 val loss: O8608- va acuracy: 07680

824/824 [==============================] - 44s 54ms/step - loss: 0.4224 - accuracy: 0.8424 - val_loss: 0.8503 - val_accuracy: 0.7885

824/824 [==============================] - 45s 55ms/step - loss: 0.3932 - accuracy: 0.8533 - val_loss: 0.8375 - val_accuracy: 0.7885
Epoch 4/20
824/824 [==============================] - 45s 54ms/step - loss: 0.3654 - accuracy: 0.8633 - val_loss: 0.8503 - val_accuracy: 0.8070
Epoch 5/20
824/824 [==============================] - 45s 54ms/step - loss: 0.3457 - accuracy: 0.8701 - val_loss: 0.9432 - val_accuracy: 0.8060

824/824 [-   =-=---=-----=-  --- 45s 54ns/step-       R3245  ac<urazy: OS78l val loss: 10438- va acuracy: 0.8193

824/824 [==============================] - 45s 54ms/step - loss: 0.2980 - accuracy: 0.8868 - val_loss: 1.1174 - val_accuracy: 0.7967

824/824 [==============================] - 44s 54ms/step - loss: 0.2961 - accuracy: 0.8871 - val_loss: 1.2373 - val_accuracy: 0.8060

824/824 [==============================] - 45s 54ms/step - loss: 0.2749 - accuracy: 0.8915 - val_loss: 1.1145 - val_accuracy: 0.8101

824/824 [==============================] - 45s 54ms/step - loss: 0.2518 - accuracy: 0.9070 - val_loss: 1.2814 - val_accuracy: 0.8306

824/824 [==============================] - 45s 54ms/step - loss: 0.2436 - accuracy: 0.9070 - val loss: 1.2271 - val accuracy: 0.8378
```


dataplatform.cloud.ibm.com/analytics/notebooks/v2/475612e3-3c3c-4e12-8e38-f0e76cd5d874?projectid=ba655bdc-adf6-41cd-bd9d-1c92e18315d78context=cpdaas
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Code
In [10]:
from ibm_watson_machine_learning import APIClient
wml_credentials = {
"url":"https://us-south.ml.cloud.ibm.com",
"apikey":"25L9B12dfBspf3YMybahpDQfRVcUOkiSZOm_ywLYjPJS"
}
client = APIClient(wml_credentials)
In [11]:
def guid_from_space_name(client, space_name):
space = client.spaces.get_details()
return(next(item for item in space['resources'] if item
In [12]:
space_uid = guid_from_space_name(client, 'Image_Prediction'
print("Space UID = " + space_uid)
Space UID = bdd4b218-049e-4c29-b1ce-1374fcd24ce0
In [13]:
client.set.default_space(space_uid)
In [14]:
client.software_specifications.list()
kernel-spark3.2-scala2.12 020d69ce-7ac1-5e68-ac1a-31189867356a base
pytorch-onnx_1.3-py3.7-edt 069ea134-3346-5748-b513-49120e15d288 base