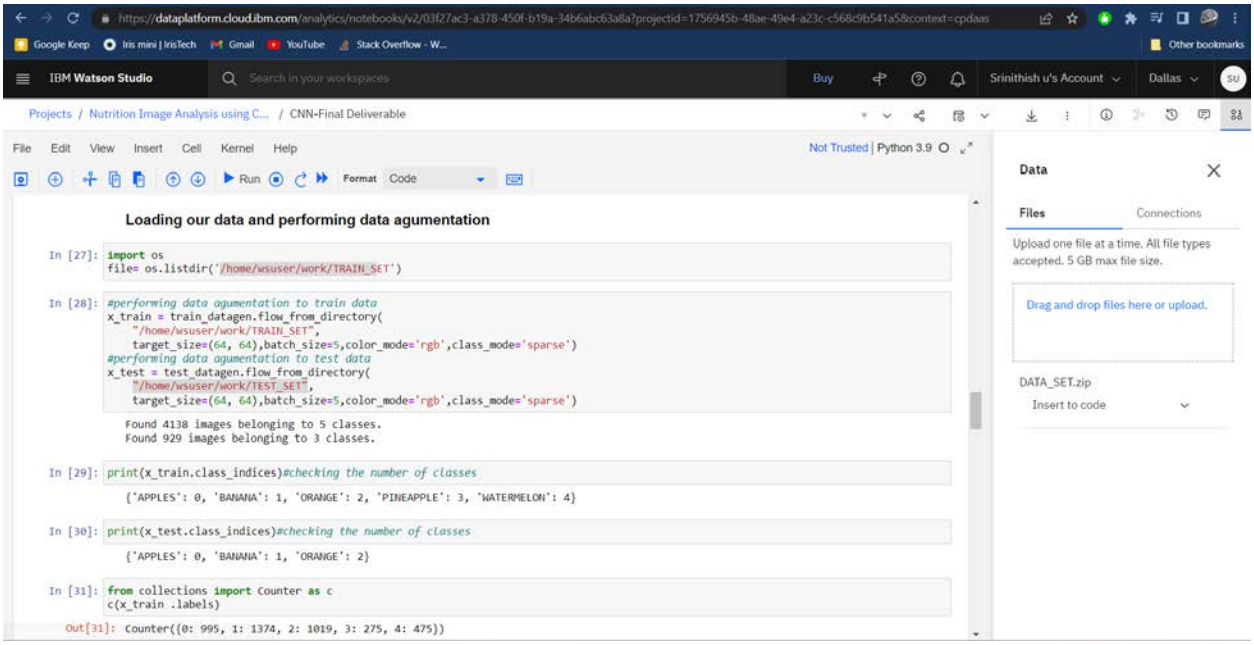
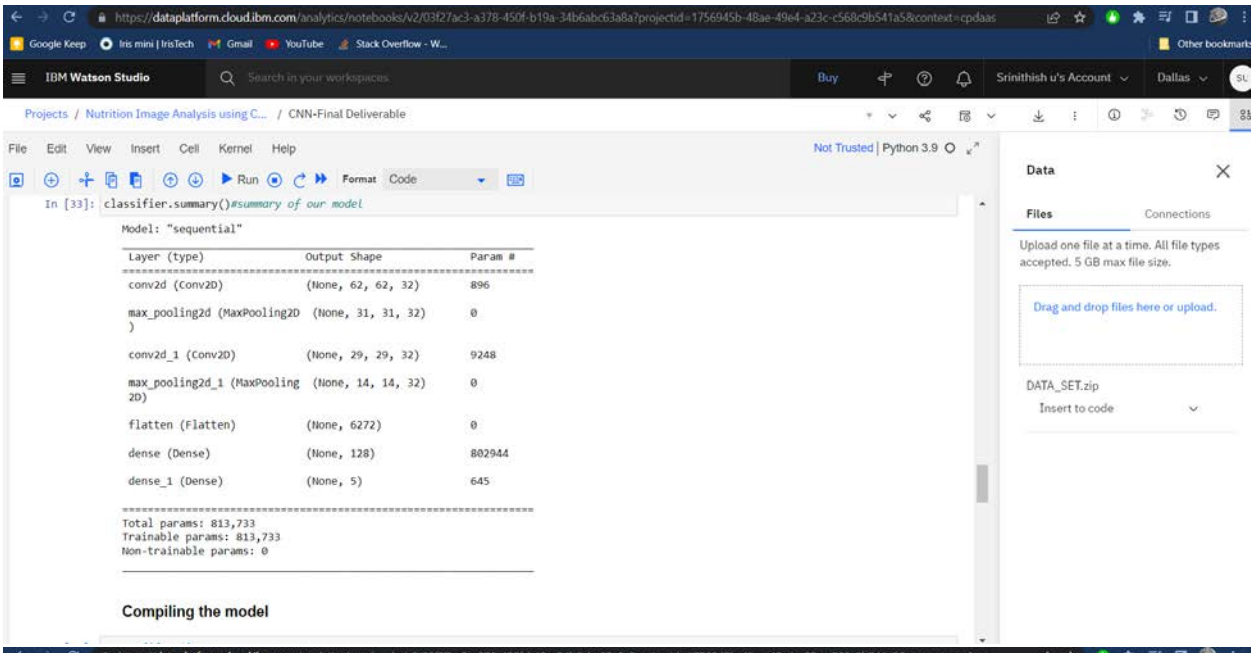
Train in IBM cloud

Date	29 October 2022
Team ID	PNT2022TMID20581
Project Name	AI-powered Nutrition Analyzer for Fitness Enthusiasts

IBM Watson Project link :

https://dataplatform.cloud.ibm.com/projects/1756945b-48ae-49e4-a23c-c568c9b541a5/assets?context=cpdaas

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Upload one file at a time. All file types accepted. 5 GB max file size.
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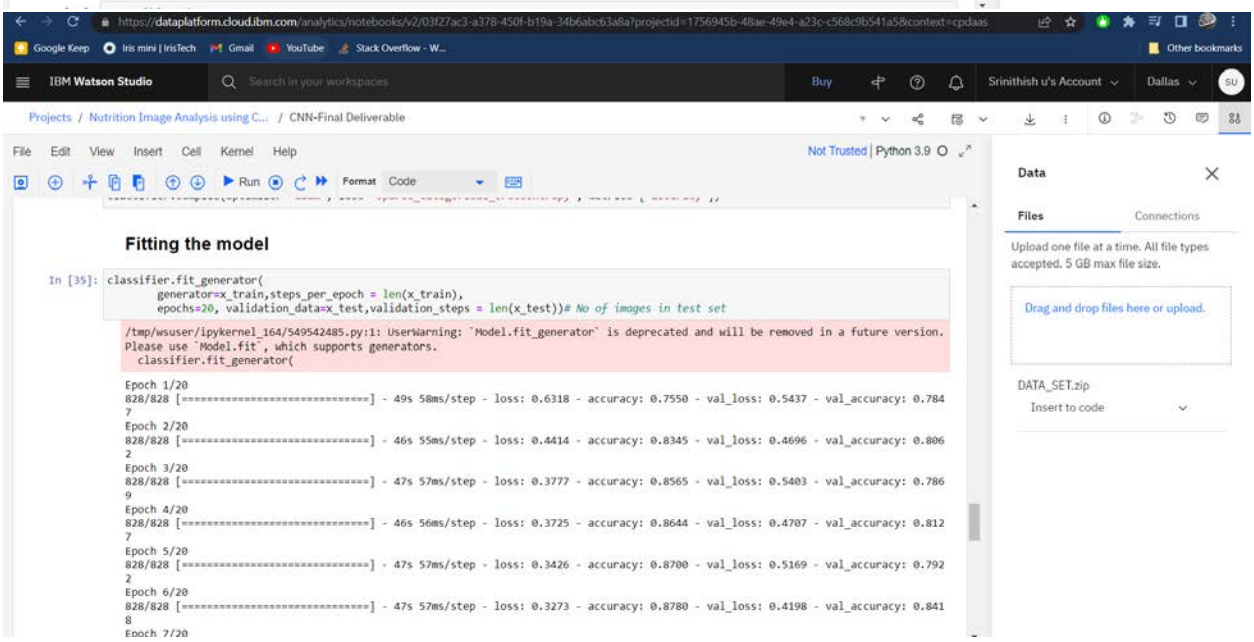
DATA_SET.zip
Insert to code
In [33]: classifier.summary()#summary of our model
Model: "sequential"
Layer (type) Output Shape Param #
conv2d (Conv2D) (None, 62, 62, 32) 896
max_pooling2d (MaxPooling2D) (None, 31, 31, 32) 0
conv2d_1 (Conv2D) (None, 29, 29, 32) 9248
max_pooling2d_1 (MaxPooling2D) (None, 14, 14, 32) 0
flatten (Flatten) (None, 6272) 0
dense (Dense) (None, 128) 802944
dense_1 (Dense) (None, 5) 645
Total params: 813,733
Trainable params: 813,733
Non-trainable params: 0
Compiling the model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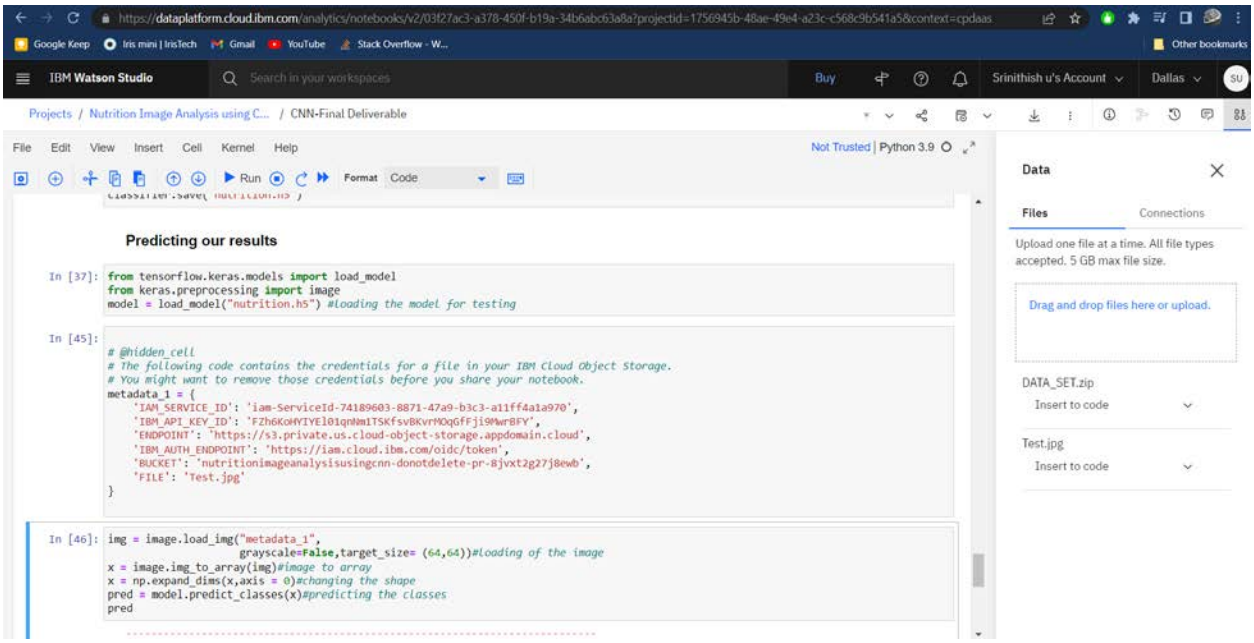
Fitting the model
In [35]: classifier.fit_generator(
generator=x_train,steps_per_epoch = len(x_train),
epochs=20, validation_data=x_test,validation_steps = len(x_test))# No of images in test set
/tmp/wsuser/ipykernel_164/549542485.py:1: UserWarning: `Model.fit_generator` is deprecated and will be removed in a future version.
Please use `Model.fit`, which supports generators.
classifier.fit_generator(
Epoch 1/20
828/828 [==========] - 49s 58ms/step - loss: 0.6318 - accuracy: 0.7550 - val_loss: 0.5437 - val_accuracy: 0.784
7
Epoch 2/20
828/828 [==========] - 46s 55ms/step - loss: 0.4414 - accuracy: 0.8345 - val_loss: 0.4696 - val_accuracy: 0.806
2
Epoch 3/20
828/828 [==========] - 47s 57ms/step - loss: 0.3777 - accuracy: 0.8565 - val_loss: 0.5403 - val_accuracy: 0.786
9
Epoch 4/20
828/828 [==========] - 46s 56ms/step - loss: 0.3725 - accuracy: 0.8644 - val_loss: 0.4707 - val_accuracy: 0.812
7
Epoch 5/20
828/828 [==========] - 47s 57ms/step - loss: 0.3426 - accuracy: 0.8700 - val_loss: 0.5169 - val_accuracy: 0.792
2
Epoch 6/20
828/828 [==========] - 47s 57ms/step - loss: 0.3273 - accuracy: 0.8780 - val_loss: 0.4198 - val_accuracy: 0.841
8
Epoch 7/20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Predicting our results
In [37]:
from tensorflow.keras.models import load_model
from keras.preprocessing import image
model = load_model("nutrition.h5") #loading the model for testing
In [45]:
# @hidden_cell
# The following code contains the credentials for a file in your IBM Cloud Object Storage.
# You might want to remove those credentials before you share your notebook.
metadata_1 = {
'IAM_SERVICE_ID': 'iam-ServiceId-74189603-8871-47a9-b3c3-a11ff4a1a970',
'IBM_API_KEY_ID': 'FZh6KoHYIYEl01qnNm1TSKfsvBKvrMOqGfFji9WrBFY',
'ENDPOINT': 'https://s3.private.us.cloud-object-storage.appdomain.cloud',
'IBM_AUTH_ENDPOINT': 'https://iam.cloud.ibm.com/oidc/token',
'BUCKET': 'nutritionimageanalysisusingcnn-donotdelete-pr-8jvxt2g27j8ewb',
'FILE': 'Test.jpg'
}
In [46]:
img = image.load_img("metadata_1",
grayscale=False,target_size= (64,64))#loading of the image
x = image.img_to_array(img)#image to array
x = np.expand_dims(x,axis = 0)#changing the shape
pred = model.predict_classes(x)#predicting the classes
pred
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Insert to code
Test.jpg
Insert to code