

Project Development Phase Model Performance Test

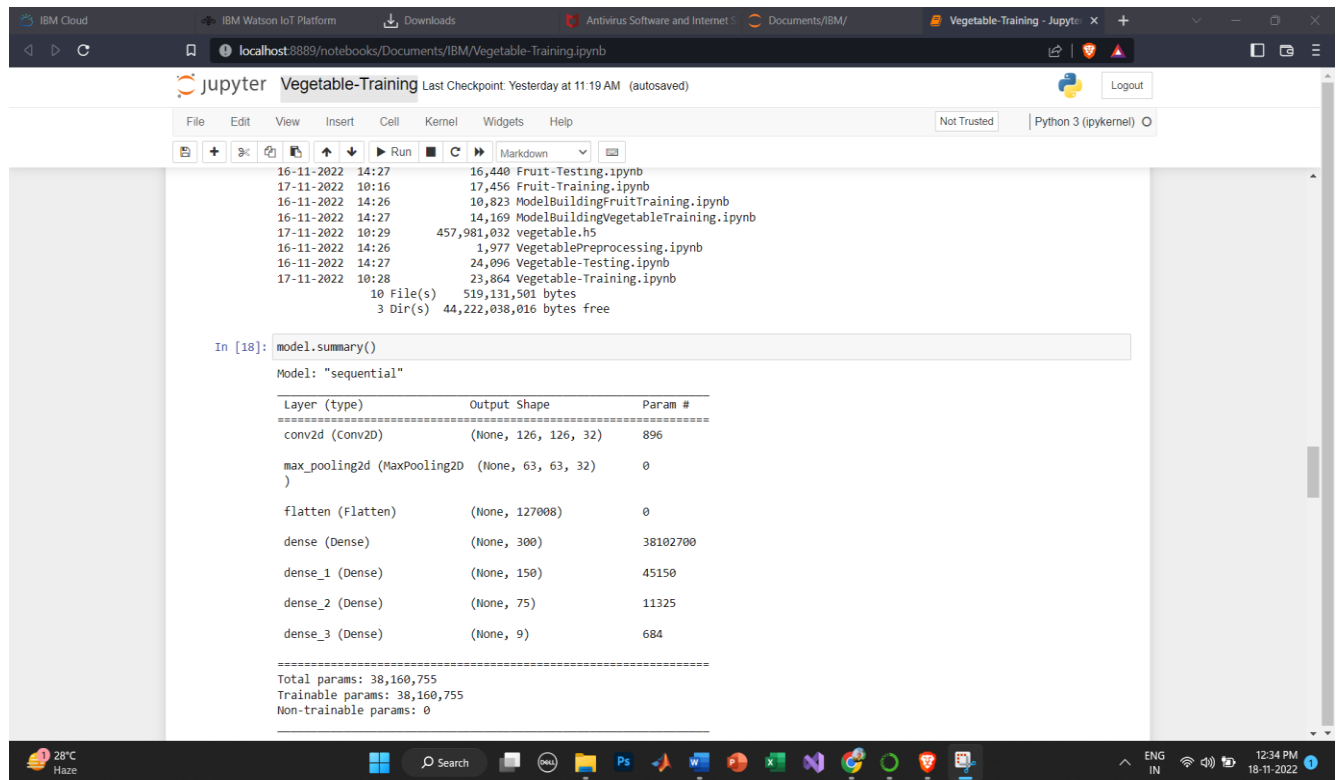
Date	10 November 2022
Team ID	PNT2022TMID08602
Project Name	Fertilizer Recommendation System For Disease Prediction
Maximum Marks	10 Marks

Model Performance Testing:

Project team shall fill the following information in model performance testing template.

S.No.	Parameter	Values	Screenshot
1.	Model Summary	Total params: 38,160,755 Trainable params: 38,160,755 Non-Trainable params: 0	<pre>In [18]: model.summary() Model: "sequential" Layer (type) Output Shape Param # ----- conv2d (Conv2D) (None, 126, 126, 32) 896 max_pooling2d (MaxPooling2D) (None, 63, 63, 32) 0 flatten (Flatten) (None, 127008) 0 dense (Dense) (None, 300) 38102700 dense_1 (Dense) (None, 150) 45150 dense_2 (Dense) (None, 75) 11325 dense_3 (Dense) (None, 9) 684 Total params: 38,160,755 Trainable params: 38,160,755 Non-trainable params: 0</pre>
2.	Accuracy	Training Accuracy – 97.55 Validation Accuracy – 96.45	<p>Fit the Model</p> <pre>In [20]: model.fit_generator(x_train, steps_per_epoch=168, validation_data=x_test, validation_steps=52, epochs=3) C:\Users\AA30\AppData\Local\Temp\ipykernel_13384\2081909211.py:1: UserWarning: "model.fit_generator" is deprecated and will be removed in a future version. Please use "Model.fit", which supports generators. model.fit_generator(x_train, steps_per_epoch=168, validation_data=x_test, validation_steps=52, epochs=3) Epoch 1/3 168/168 [=====] - 149s 874ms/step - loss: 0.9807 - accuracy: 0.6482 - val_loss: 136.7193 - val_accuracy: 0.7175 Epoch 2/3 168/168 [=====] - 98s 584ms/step - loss: 0.4285 - accuracy: 0.8520 - val_loss: 149.8187 - val_accuracy: 0.7163 Epoch 3/3 168/168 [=====] - 97s 577ms/step - loss: 0.2868 - accuracy: 0.9023 - val_loss: 270.4775 - val_accuracy: 0.6346 Out[20]: <keras.callbacks.History at 0x18504b644fb></pre>

MODEL SUMMARY:



IBM Cloud IBM Watson IoT Platform Downloads Antivirus Software and Internet Documents/IBM/ Vegetable-Training - Jupyter x +

localhost:8889/notebooks/Documents/IBM/Vegetable-Training.ipynb

jupyter Vegetable-Training Last Checkpoint: Yesterday at 11:19 AM (autosaved) Logout

File Edit View Insert Cell Kernel Widgets Help Not Trusted Python 3 (ipykernel)

16-11-2022 14:27 16,440 Fruit-Testing.ipynb
17-11-2022 10:16 17,456 Fruit-Training.ipynb
16-11-2022 14:26 10,823 ModelBuildingFruitTraining.ipynb
16-11-2022 14:27 14,169 ModelBuildingVegetableTraining.ipynb
17-11-2022 10:29 457,981,032 vegetable.h5
16-11-2022 14:26 1,977 VegetablePreprocessing.ipynb
16-11-2022 14:27 24,096 Vegetable-Testing.ipynb
17-11-2022 10:28 23,864 Vegetable-Training.ipynb
10 File(s) 519,131,501 bytes
3 Dir(s) 44,222,038,016 bytes free

In [18]: model.summary()

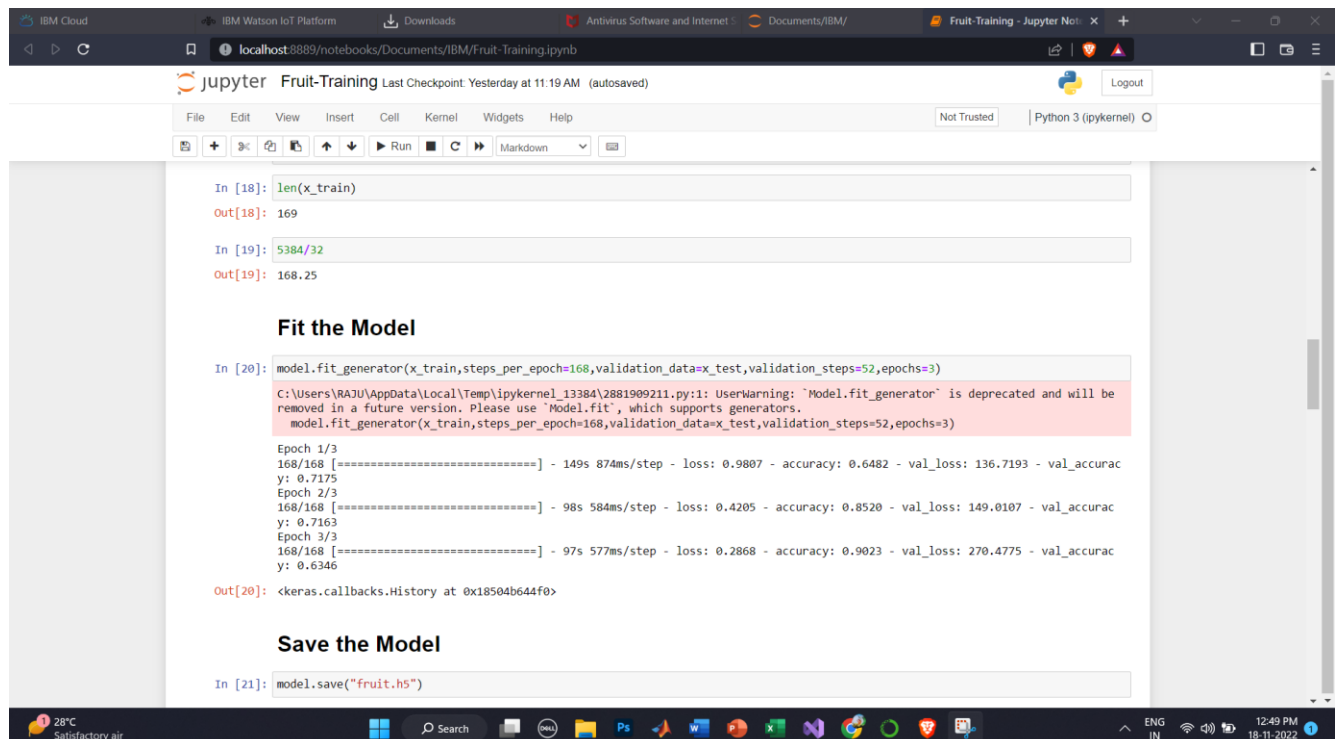
Model: "sequential"

Layer (type)	Output Shape	Param #
conv2d (Conv2D)	(None, 126, 126, 32)	896
max_pooling2d (MaxPooling2D)	(None, 63, 63, 32)	0
flatten (Flatten)	(None, 127008)	0
dense (Dense)	(None, 300)	38102700
dense_1 (Dense)	(None, 150)	45150
dense_2 (Dense)	(None, 75)	11325
dense_3 (Dense)	(None, 9)	684

Total params: 38,160,755
Trainable params: 38,160,755
Non-trainable params: 0

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ACCURACY:



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localhost:8889/notebooks/Documents/IBM/Fruit-Training.ipynb

jupyter Fruit-Training Last Checkpoint: Yesterday at 11:19 AM (autosaved) Logout

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In [18]: len(x_train)
Out[18]: 169

In [19]: 5384/32
Out[19]: 168.25

Fit the Model

In [20]: model.fit_generator(x_train, steps_per_epoch=168, validation_data=x_test, validation_steps=52, epochs=3)

C:\Users\RAJU\AppData\Local\Temp\ipykernel_13384\2881909211.py:1: UserWarning: 'Model.fit_generator' is deprecated and will be removed in a future version. Please use 'Model.fit', which supports generators.
model.fit_generator(x_train, steps_per_epoch=168, validation_data=x_test, validation_steps=52, epochs=3)

Epoch 1/3
168/168 [=====] - 149s 874ms/step - loss: 0.9807 - accuracy: 0.6482 - val_loss: 136.7193 - val_accuracy: 0.7175
Epoch 2/3
168/168 [=====] - 98s 584ms/step - loss: 0.4205 - accuracy: 0.8520 - val_loss: 149.0107 - val_accuracy: 0.7163
Epoch 3/3
168/168 [=====] - 97s 577ms/step - loss: 0.2868 - accuracy: 0.9023 - val_loss: 270.4775 - val_accuracy: 0.6346

Out[20]: <keras.callbacks.History at 0x18504b644f0>

Save the Model

In [21]: model.save("fruit.h5")

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