

V.S.B. ENGINEERING COLLEGE, KARUR

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

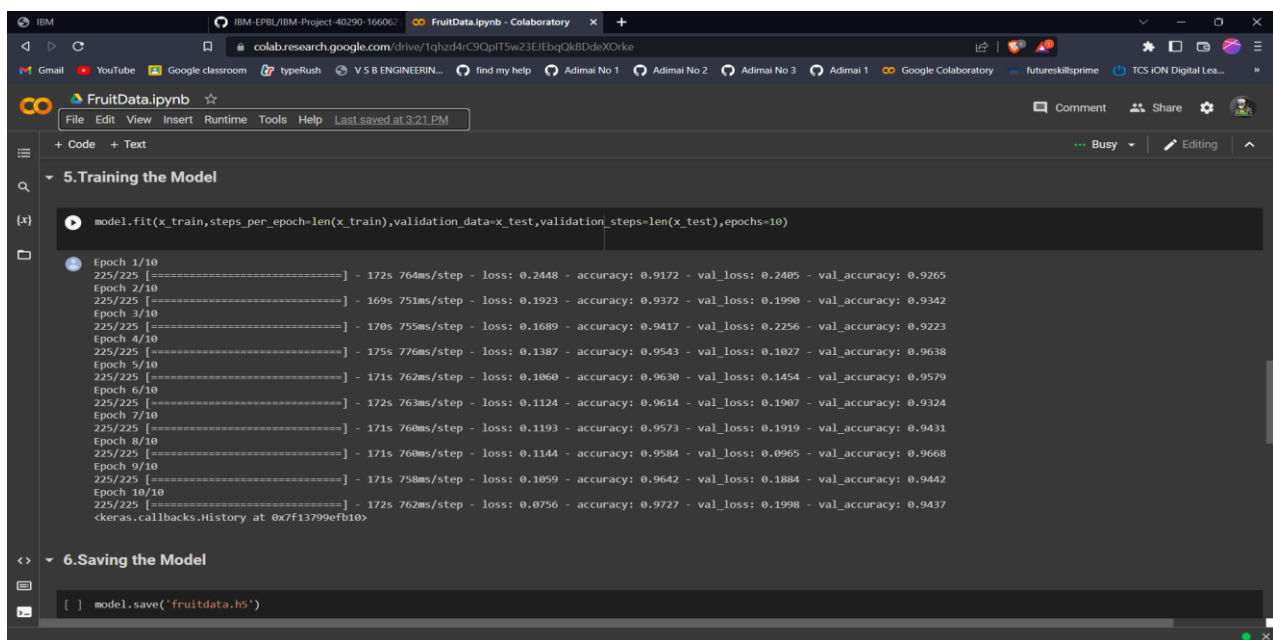
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TRAIN THE MODEL ON IBM

Date	18 November 2022
Team ID	PNT2022TMID33289
Project Name	Fertilizers Recommendation System for Disease Prediction

TRAIN THE MODEL ON IBM:

TRAINING FRUIT DATA:

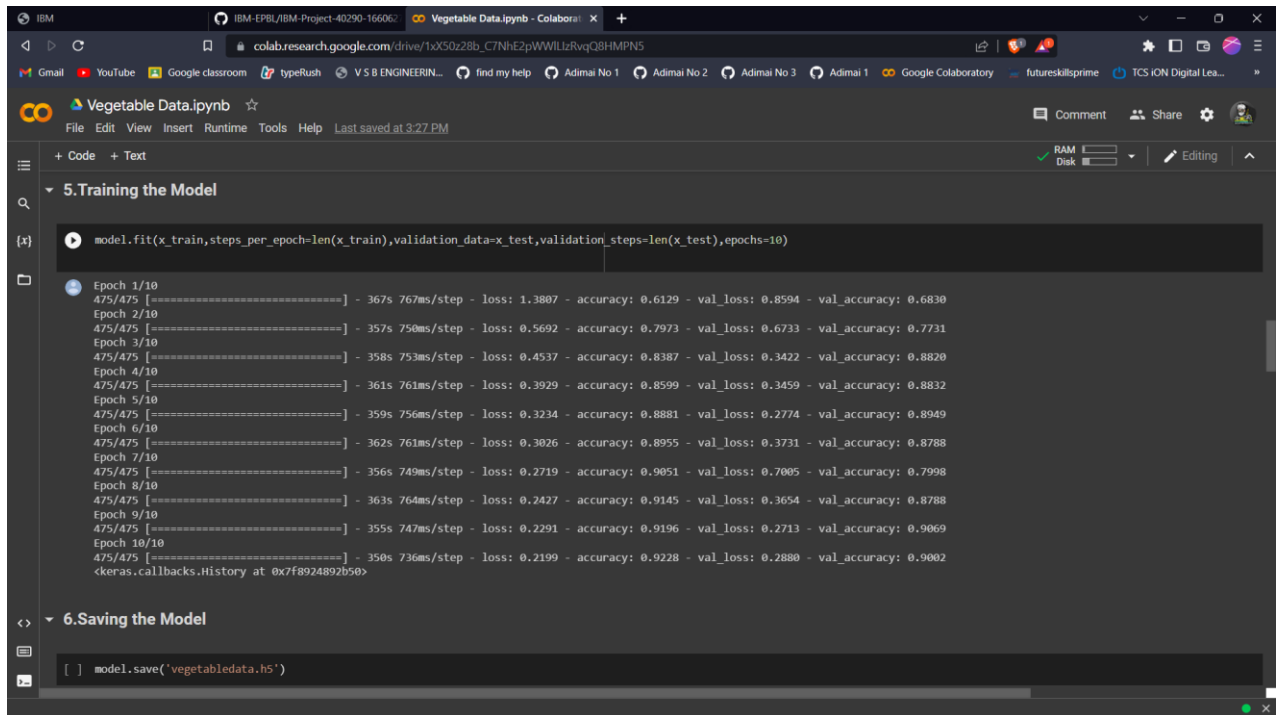


```
model.fit(x_train, steps_per_epoch=len(x_train), validation_data=x_test, validation_steps=len(x_test), epochs=10)
```

Epoch 1/10
225/225 [=====] - 172s 764ms/step - loss: 0.2448 - accuracy: 0.9172 - val_loss: 0.2405 - val_accuracy: 0.9265
Epoch 2/10
225/225 [=====] - 169s 751ms/step - loss: 0.1923 - accuracy: 0.9372 - val_loss: 0.1990 - val_accuracy: 0.9342
Epoch 3/10
225/225 [=====] - 170s 755ms/step - loss: 0.1689 - accuracy: 0.9417 - val_loss: 0.2256 - val_accuracy: 0.9223
Epoch 4/10
225/225 [=====] - 175s 776ms/step - loss: 0.1387 - accuracy: 0.9543 - val_loss: 0.1027 - val_accuracy: 0.9638
Epoch 5/10
225/225 [=====] - 171s 762ms/step - loss: 0.1060 - accuracy: 0.9630 - val_loss: 0.1454 - val_accuracy: 0.9579
Epoch 6/10
225/225 [=====] - 172s 763ms/step - loss: 0.1124 - accuracy: 0.9614 - val_loss: 0.1907 - val_accuracy: 0.9324
Epoch 7/10
225/225 [=====] - 171s 760ms/step - loss: 0.1193 - accuracy: 0.9573 - val_loss: 0.1919 - val_accuracy: 0.9431
Epoch 8/10
225/225 [=====] - 171s 760ms/step - loss: 0.1144 - accuracy: 0.9584 - val_loss: 0.0965 - val_accuracy: 0.9668
Epoch 9/10
225/225 [=====] - 171s 758ms/step - loss: 0.1059 - accuracy: 0.9642 - val_loss: 0.1884 - val_accuracy: 0.9442
Epoch 10/10
225/225 [=====] - 172s 762ms/step - loss: 0.0756 - accuracy: 0.9727 - val_loss: 0.1998 - val_accuracy: 0.9437
<keras.callbacks.History at 0x7f13799efb10>

```
model.save('fruitdata.h5')
```

TRAINING VEGETABLES DATA:



The screenshot shows a Google Colab notebook interface. The browser address bar indicates the notebook is located at `colab.research.google.com/drive/1xXS0z28b_C7NhE2pWWILzRvqQBHMPN5`. The notebook title is "Vegetable Data.ipynb" and it was last saved at 3:27 PM. The interface includes a menu bar (File, Edit, View, Insert, Runtime, Tools, Help) and a toolbar with options for RAM, Disk, and Editing.

The notebook content is divided into two sections:

5. Training the Model

```
model.fit(x_train, steps_per_epoch=len(x_train), validation_data=x_test, validation_steps=len(x_test), epochs=10)
```

The output of the training process shows the progress for 10 epochs. Each epoch displays the time taken, steps per epoch, loss, accuracy, validation loss, and validation accuracy.

Epoch	Time	Steps	Loss	Accuracy	Val Loss	Val Accuracy
1/10	367s	767ms/step	1.3807	0.6129	0.8594	0.6830
2/10	357s	750ms/step	0.5692	0.7973	0.6733	0.7731
3/10	358s	753ms/step	0.4537	0.8387	0.3422	0.8820
4/10	361s	761ms/step	0.3929	0.8599	0.3459	0.8832
5/10	359s	756ms/step	0.3234	0.8881	0.2774	0.8949
6/10	362s	761ms/step	0.3026	0.8955	0.3731	0.8788
7/10	356s	749ms/step	0.2719	0.9051	0.7005	0.7998
8/10	363s	764ms/step	0.2427	0.9145	0.3654	0.8788
9/10	355s	747ms/step	0.2291	0.9196	0.2713	0.9069
10/10	350s	736ms/step	0.2199	0.9228	0.2880	0.9002

The output ends with the message: `<keras.callbacks.History at 0x7f8924892b50>`

6. Saving the Model

```
model.save('vegetabledata.h5')
```