Model Development Phase Template

Date	20 November 2025
Team ID	739946
Project Title	Deepfruitveg:Automated Fruit And Vegetables Identification
Maximum Marks	10 Marks

Initial Model Training Code, Model Validation and Evaluation Report

The initial model training code will be showcased in the future through a screenshot. The model validation and evaluation report will include a summary and training and validation performance metrics for multiple models, presented through respective screenshots.

```
# model training
model.fit(x=train_data,
          epochs=10,
          validation_data=val_data,
          validation_freq=1
        )
```

```
Epoch 1/10
190/190 ━━━━━━━━━━━━━━━━━━━━ 149s 475ms/step - accuracy: 0.1320 - loss: 3.1434 - val_accuracy: 0.4080 - val_loss:
1.9802
Epoch 2/10
190/190 ━━━━━━━━━━━━━━━━━━━━ 134s 435ms/step - accuracy: 0.4454 - loss: 1.8554 - val_accuracy: 0.5356 - val_loss:
1.5017
Epoch 3/10
190/190 ━━━━━━━━━━━━━━━━━━━━ 146s 460ms/step - accuracy: 0.5941 - loss: 1.3114 - val_accuracy: 0.5861 - val_loss:
1.3509
Epoch 4/10
190/190 ━━━━━━━━━━━━━━━━━━━━ 138s 437ms/step - accuracy: 0.6688 - loss: 1.0655 - val_accuracy: 0.6751 - val_loss:
1.1063
Epoch 5/10
190/190 ━━━━━━━━━━━━━━━━━━━━ 142s 437ms/step - accuracy: 0.7279 - loss: 0.8683 - val_accuracy: 0.6647 - val_loss:
1.0964
Epoch 6/10
190/190 ━━━━━━━━━━━━━━━━━━━━ 142s 438ms/step - accuracy: 0.7784 - loss: 0.7049 - val_accuracy: 0.6751 - val_loss:
1.0812
Epoch 7/10
190/190 ━━━━━━━━━━━━━━━━━━━━ 148s 467ms/step - accuracy: 0.8082 - loss: 0.5601 - val_accuracy: 0.6944 - val_loss:
1.1582
Epoch 8/10
190/190 ━━━━━━━━━━━━━━━━━━━━ 136s 435ms/step - accuracy: 0.8357 - loss: 0.4831 - val_accuracy: 0.6944 - val_loss:
1.1538
Epoch 9/10
190/190 ━━━━━━━━━━━━━━━━━━━━ 142s 437ms/step - accuracy: 0.8605 - loss: 0.4281 - val_accuracy: 0.6677 - val_loss:
1.1791
Epoch 10/10
190/190 ━━━━━━━━━━━━━━━━━━━━ 154s 503ms/step - accuracy: 0.8833 - loss: 0.3573 - val_accuracy: 0.6869 - val_loss:
1.2301

<keras.src.callbacks.history.History at 0x7fea2a9a6050>
```

Initial Model Training Code (5 marks):

Model Validation and Evaluation Report (5 marks):

Model	Summary	Training and Validation Performance Metrics
Model 1	Screenshot of the neural network summary	Screenshot of the training and validation performance metrics (output of the model.fit()).
Model 2	Screenshot of the neural network summary	Screenshot of the training and validation performance metrics (output of the model.fit()).
…	…	…