Model Development Phase Template

Date	27 June 2024
Team ID	SWTID1720428909
Project Title	Vitamin Vision: Unveiling the Spectrum of Nutrient Detection
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.

Initial Model Training Code (5 marks):

```
# prompt: write a code to train the model

history = vgg19.fit(train, epochs=5, validation_data=test)
```

Model Validation and Evaluation Report (5 marks):

Model	Summary	Training and Validation Performance Metrics

CNN: VGG19	`import pandas as pd`
	`vgg19_df=pd.DataFrame(hist.history)`
	`test_loss, test_accuracy = vgg19.evaluate(test)`
	`print('Test Loss:', test_loss)`
	`print('Test Accuracy:', test_accuracy)`
	
	VGG19 is a convolutional
	
	neural network (CNN) model
		`hist=vgg19.fit(train, validation_data=test, epochs=2,batch_size=64)`
		`Epoch 1/2`
		`598/598 [==============================] - 142s 227ms/step - loss: 1.5918 - accuracy: 0.4991 -`
		`Epoch 2/2`
		`598/598 [==============================] - 127s 213ms/step - loss: 1.2938 - accuracy: 0.5900 -`

	with 19 layers, known for its deep architecture and effectiveness in image recognition tasks. It uses small receptive fields and emphasizes depth through multiple convolutional layers.	`[20] accuracy = vgg19.evaluate(test)`
		`print('Accuracy:', accuracy[1])`
		`15/15 [==============================] - 1s 80ms/step - loss: 24.3672 - accuracy: 0.2812`
		`Accuracy: 0.28125`