

Model Development Phase Template

Date	10 July 2024
Team ID	SWTID1720158583
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):

Paste the screenshot of the model training code

Model Validation and Evaluation Report (5 marks):

Model	Summary	Training and Validation Performance Metrics
Model 1	<pre>base_model = VGG19(weights='imagenet', include_top=False, input_shape=(224, 224, 3))</pre>	<pre>Epoch 19/20 - 86s - loss: 0.7045 - accuracy: 0.8400 - val_loss: 0.7421 - val_accuracy: 0.7800 Epoch 20/20 - 85s - loss: 0.6649 - accuracy: 0.8600 - val_loss: 0.7096 - val_accuracy: 0.7900</pre>

	<pre>x = base_model.output x = Flatten()(x) x = Dense(512, activation='relu')(x) x = Dropout(0.5)(x) x = Dense(256, activation='relu')(x) x = Dropout(0.5)(x) predictions = Dense(10, activation='softmax')(x)</pre>	
Model 2	Screenshot of the neural network summary	Screenshot of the training and validation performance metrics (output of the model.fit()).
Vgg16	<pre>base_model = VGG16(weights='imagenet', include_top=False, input_shape=(224, 224, 3)) for layer in base_model.layers: layer.trainable = False x = base_model.output x = Flatten()(x) x = Dense(512, activation='relu')(x) x = Dropout(0.5)(x) x = Dense(256, activation='relu')(x) x = Dropout(0.5)(x) predictions = Dense(10, activation='softmax')(x)</pre>	<pre>Epoch 19/20 - 86s - loss: 0.7045 - accuracy: 0.8400 - val_loss: 0.7421 - val_accuracy: 0.7800 Epoch 20/20 - 85s - loss: 0.6649 - accuracy: 0.8600 - val_loss: 0.7096 - val_accuracy: 0.7900</pre>