

Model Development Phase

Date	15 March 2024
Team ID	739877
Project Title	WCE Curated Colon Disease Classification using Deep Learning
Maximum Marks	10 Marks

Initial Model Training Code, Model Validation and Evaluation Report

Initial Model Training Code (5 marks):

```
#compiling the model
vgg16_model.compile(optimizer='adam',loss='categorical_crossentropy',metrics=['Accuracy'])
#train the model
vgg16_model.fit([train_data,epochs=9,validation_data=test_data])
```

Model Validation and Evaluation Report (5 marks):

Model	Summary	Training and Validation Performance Metrics																																										
Model 1 (vgg16)	 <p>Model: "functional"</p> <table border="1"> <thead> <tr> <th>Layer (type)</th> <th>Output Shape</th> <th>Param #</th> </tr> </thead> <tbody> <tr><td>input_layer (InputLayer)</td><td>(None, 224, 224, 3)</td><td>0</td></tr> <tr><td>block1_conv2 (Conv2D)</td><td>(None, 112, 112, 64)</td><td>4,608</td></tr> <tr><td>block1_pool (MaxPooling2D)</td><td>(None, 56, 56, 64)</td><td>0</td></tr> <tr><td>block2_conv2 (Conv2D)</td><td>(None, 56, 56, 128)</td><td>16,384</td></tr> <tr><td>block2_pool (MaxPooling2D)</td><td>(None, 28, 28, 128)</td><td>0</td></tr> <tr><td>block3_conv2 (Conv2D)</td><td>(None, 28, 28, 256)</td><td>65,536</td></tr> <tr><td>block3_pool (MaxPooling2D)</td><td>(None, 14, 14, 256)</td><td>0</td></tr> <tr><td>block4_conv2 (Conv2D)</td><td>(None, 14, 14, 512)</td><td>131,072</td></tr> <tr><td>block4_pool (MaxPooling2D)</td><td>(None, 7, 7, 512)</td><td>0</td></tr> <tr><td>block5_conv2 (Conv2D)</td><td>(None, 7, 7, 1024)</td><td>262,144</td></tr> <tr><td>block5_pool (MaxPooling2D)</td><td>(None, 3, 3, 1024)</td><td>0</td></tr> <tr><td>flatten (Flatten)</td><td>(None, 1536)</td><td>0</td></tr> <tr><td>dense (Dense)</td><td>(None, 1000)</td><td>1,537,000</td></tr> </tbody> </table> <p>Total params: 2,950,720 (56.51 MB) Trainable params: 2,950,720 (56.51 MB) Non-trainable params: 0 (0.00 MB)</p>	Layer (type)	Output Shape	Param #	input_layer (InputLayer)	(None, 224, 224, 3)	0	block1_conv2 (Conv2D)	(None, 112, 112, 64)	4,608	block1_pool (MaxPooling2D)	(None, 56, 56, 64)	0	block2_conv2 (Conv2D)	(None, 56, 56, 128)	16,384	block2_pool (MaxPooling2D)	(None, 28, 28, 128)	0	block3_conv2 (Conv2D)	(None, 28, 28, 256)	65,536	block3_pool (MaxPooling2D)	(None, 14, 14, 256)	0	block4_conv2 (Conv2D)	(None, 14, 14, 512)	131,072	block4_pool (MaxPooling2D)	(None, 7, 7, 512)	0	block5_conv2 (Conv2D)	(None, 7, 7, 1024)	262,144	block5_pool (MaxPooling2D)	(None, 3, 3, 1024)	0	flatten (Flatten)	(None, 1536)	0	dense (Dense)	(None, 1000)	1,537,000	 <pre>vgg16_model.fit([train_data,epochs=9,validation_data=test_data])</pre> <p>Epoch 0/9 1/9 [>] 100% 100/100 [0.000s] accuracy: 0.0000 - loss: 0.0000 - val_accuracy: 0.0000 - val_loss: 0.0000</p> <p>Epoch 1/9 1/9 [>] 100% 100/100 [0.000s] accuracy: 0.0000 - loss: 0.0000 - val_accuracy: 0.0000 - val_loss: 0.0000</p> <p>Epoch 2/9 1/9 [>] 100% 100/100 [0.000s] accuracy: 0.0000 - loss: 0.0000 - val_accuracy: 0.0000 - val_loss: 0.0000</p> <p>Epoch 3/9 1/9 [>] 100% 100/100 [0.000s] accuracy: 0.0000 - loss: 0.0000 - val_accuracy: 0.0000 - val_loss: 0.0000</p> <p>Epoch 4/9 1/9 [>] 100% 100/100 [0.000s] accuracy: 0.0000 - loss: 0.0000 - val_accuracy: 0.0000 - val_loss: 0.0000</p> <p>Epoch 5/9 1/9 [>] 100% 100/100 [0.000s] accuracy: 0.0000 - loss: 0.0000 - val_accuracy: 0.0000 - val_loss: 0.0000</p> <p>Epoch 6/9 1/9 [>] 100% 100/100 [0.000s] accuracy: 0.0000 - loss: 0.0000 - val_accuracy: 0.0000 - val_loss: 0.0000</p> <p>Epoch 7/9 1/9 [>] 100% 100/100 [0.000s] accuracy: 0.0000 - loss: 0.0000 - val_accuracy: 0.0000 - val_loss: 0.0000</p> <p>Epoch 8/9 1/9 [>] 100% 100/100 [0.000s] accuracy: 0.0000 - loss: 0.0000 - val_accuracy: 0.0000 - val_loss: 0.0000</p> <p>Epoch 9/9 1/9 [>] 100% 100/100 [0.000s] accuracy: 0.0000 - loss: 0.0000 - val_accuracy: 0.0000 - val_loss: 0.0000</p>
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