

Project Development Phase Model Performance Test

Date	10 November 2022
Team ID	609691
Project Name	Deep Learning Model For Eye Disease Prediction
Maximum Marks	10 Marks

Model Performance Testing:

Project team shall fill the following information in the model performance testing template.

S.No.	Parameter	Values	Screenshot																																	
1.	Model Summary	-	<pre># Compiling the model and displaying summary model.compile(optimizer='adam', loss=tf.keras.losses.categorical_crossentropy) model.summary()</pre> <p>Model: "sequential"</p> <table><thead><tr><th>Layer (type)</th><th>Output Shape</th><th>Param #</th></tr></thead><tbody><tr><td>rescaling (Rescaling)</td><td>(None, 224, 224, 3)</td><td>0</td></tr><tr><td>conv2d (Conv2D)</td><td>(None, 224, 224, 16)</td><td>448</td></tr><tr><td>max_pooling2d (MaxPooling2D)</td><td>(None, 112, 112, 16)</td><td>0</td></tr><tr><td>conv2d_1 (Conv2D)</td><td>(None, 112, 112, 32)</td><td>4640</td></tr><tr><td>max_pooling2d_1 (MaxPooling2D)</td><td>(None, 56, 56, 32)</td><td>0</td></tr><tr><td>conv2d_2 (Conv2D)</td><td>(None, 56, 56, 64)</td><td>18496</td></tr><tr><td>max_pooling2d_2 (MaxPooling2D)</td><td>(None, 28, 28, 64)</td><td>0</td></tr><tr><td>flatten (Flatten)</td><td>(None, 50176)</td><td>0</td></tr><tr><td>dense (Dense)</td><td>(None, 128)</td><td>6422656</td></tr><tr><td>dense_1 (Dense)</td><td>(None, 4)</td><td>516</td></tr></tbody></table> <p>Total params: 6446756 (24.59 MB) Trainable params: 6446756 (24.59 MB) Non-trainable params: 0 (0.00 Byte)</p>	Layer (type)	Output Shape	Param #	rescaling (Rescaling)	(None, 224, 224, 3)	0	conv2d (Conv2D)	(None, 224, 224, 16)	448	max_pooling2d (MaxPooling2D)	(None, 112, 112, 16)	0	conv2d_1 (Conv2D)	(None, 112, 112, 32)	4640	max_pooling2d_1 (MaxPooling2D)	(None, 56, 56, 32)	0	conv2d_2 (Conv2D)	(None, 56, 56, 64)	18496	max_pooling2d_2 (MaxPooling2D)	(None, 28, 28, 64)	0	flatten (Flatten)	(None, 50176)	0	dense (Dense)	(None, 128)	6422656	dense_1 (Dense)	(None, 4)	516
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2.	Accuracy	<div>Training Accuracy - 96.47%</div> <div>Validation Accuracy - 86.60%</div>	<div><pre># fitting the model his = model.fit(train_data, validation_data=valid_data, epochs=15)</pre></div> <div>Epoch 1/15 106/106 [=====] - 110s 1s/step - loss: 0.9138 - accuracy: 0.6079 - val_loss: 0.6640 - val_accuracy: 0.7580 Epoch 2/15 106/106 [=====] - 77s 726ms/step - loss: 0.5845 - accuracy: 0.7653 - val_loss: 0.5673 - val_accuracy: 0.7877 Epoch 3/15 106/106 [=====] - 76s 717ms/step - loss: 0.4858 - accuracy: 0.8085 - val_loss: 0.5356 - val_accuracy: 0.7972 Epoch 4/15 106/106 [=====] - 74s 697ms/step - loss: 0.4202 - accuracy: 0.8317 - val_loss: 0.5024 - val_accuracy: 0.7912 Epoch 5/15 106/106 [=====] - 75s 704ms/step - loss: 0.3676 - accuracy: 0.8566 - val_loss: 0.4381 - val_accuracy: 0.8339 Epoch 6/15 106/106 [=====] - 73s 686ms/step - loss: 0.3090 - accuracy: 0.8752 - val_loss: 0.4101 - val_accuracy: 0.8422 Epoch 7/15 106/106 [=====] - 72s 676ms/step - loss: 0.2777 - accuracy: 0.8886 - val_loss: 0.4151 - val_accuracy: 0.8517 Epoch 8/15 106/106 [=====] - 72s 673ms/step - loss: 0.2212 - accuracy: 0.9075 - val_loss: 0.4141 - val_accuracy: 0.8529 Epoch 9/15 106/106 [=====] - 71s 672ms/step - loss: 0.1969 - accuracy: 0.9226 - val_loss: 0.4268 - val_accuracy: 0.8608 Epoch 10/15 106/106 [=====] - 72s 674ms/step - loss: 0.1770 - accuracy: 0.9303 - val_loss: 0.4734 - val_accuracy: 0.8387 Epoch 11/15 106/106 [=====] - 72s 677ms/step - loss: 0.1404 - accuracy: 0.9455 - val_loss: 0.5226 - val_accuracy: 0.8399 Epoch 12/15 106/106 [=====] - 72s 677ms/step - loss: 0.1168 - accuracy: 0.9547 - val_loss: 0.5635 - val_accuracy: 0.8517 Epoch 13/15 106/106 [=====] - 74s 692ms/step - loss: 0.0962 - accuracy: 0.9686 - val_loss: 0.7077 - val_accuracy: 0.8316 Epoch 14/15 106/106 [=====] - 72s 677ms/step - loss: 0.1678 - accuracy: 0.9386 - val_loss: 0.5145 - val_accuracy: 0.8327 Epoch 15/15 106/106 [=====] - 73s 687ms/step - loss: 0.0924 - accuracy: 0.9647 - val_loss: 0.5919 - val_accuracy: 0.8668</div> <div><p>Model Accuracy</p><table><caption>Model Accuracy Data</caption><tr><th>Epoch</th><th>Train Accuracy</th><th>Val Accuracy</th></tr><tr><td>1</td><td>0.6079</td><td>0.7580</td></tr><tr><td>2</td><td>0.7653</td><td>0.7877</td></tr><tr><td>3</td><td>0.8085</td><td>0.7972</td></tr><tr><td>4</td><td>0.8317</td><td>0.7912</td></tr><tr><td>5</td><td>0.8566</td><td>0.8339</td></tr><tr><td>6</td><td>0.8752</td><td>0.8422</td></tr><tr><td>7</td><td>0.8886</td><td>0.8517</td></tr><tr><td>8</td><td>0.9075</td><td>0.8529</td></tr><tr><td>9</td><td>0.9226</td><td>0.8608</td></tr><tr><td>10</td><td>0.9303</td><td>0.8387</td></tr><tr><td>11</td><td>0.9455</td><td>0.8399</td></tr><tr><td>12</td><td>0.9547</td><td>0.8517</td></tr><tr><td>13</td><td>0.9686</td><td>0.8316</td></tr><tr><td>14</td><td>0.9386</td><td>0.8327</td></tr><tr><td>15</td><td>0.9647</td><td>0.8668</td></tr></table></div>	Epoch	Train Accuracy	Val Accuracy	1	0.6079	0.7580	2	0.7653	0.7877	3	0.8085	0.7972	4	0.8317	0.7912	5	0.8566	0.8339	6	0.8752	0.8422	7	0.8886	0.8517	8	0.9075	0.8529	9	0.9226	0.8608	10	0.9303	0.8387	11	0.9455	0.8399	12	0.9547	0.8517	13	0.9686	0.8316	14	0.9386	0.8327	15	0.9647	0.8668
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3.	Confidence Score (Only Yolo Projects)	NOT APPLICABLE																																																	