

Project Development Phase

Model Performance Test

Date	1 November 2023
Team ID	Team-592716
Project Name	FelinAI: Harnessing Artificial Intelligence for Felis Taxonomy Classification
Maximum Marks	10 Marks

Model Performance Testing:

S.No	Parameter	Values	Screenshot																		
1.	Model Summary		<div>vgg_model.summary()</div> <div>Model: "sequential_1"</div> <table><thead><tr><th>Layer (type)</th><th>Output Shape</th><th>Param #</th></tr></thead><tbody><tr><td>vgg16 (Functional)</td><td>(None, 7, 7, 512)</td><td>14714688</td></tr><tr><td>global_average_pooling2d_1 (GlobalAveragePooling2D)</td><td>(None, 512)</td><td>0</td></tr><tr><td>dense_2 (Dense)</td><td>(None, 512)</td><td>262656</td></tr><tr><td>dropout_1 (Dropout)</td><td>(None, 512)</td><td>0</td></tr><tr><td>dense_3 (Dense)</td><td>(None, 7)</td><td>3591</td></tr></tbody></table> <div>===== Total params: 14980935 (57.15 MB) Trainable params: 7345671 (28.02 MB) Non-trainable params: 7635264 (29.13 MB) =====</div>	Layer (type)	Output Shape	Param #	vgg16 (Functional)	(None, 7, 7, 512)	14714688	global_average_pooling2d_1 (GlobalAveragePooling2D)	(None, 512)	0	dense_2 (Dense)	(None, 512)	262656	dropout_1 (Dropout)	(None, 512)	0	dense_3 (Dense)	(None, 7)	3591
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2.	Accuracy	Testing Accuracy	<div>Epoch 11/50 12/12 [=====] - 113s 10s/step - loss: 0.6692 - accuracy: 0.7302 - val_loss: 1.0636 - val_accuracy: 0.6118 Epoch 12/50 12/12 [=====] - 119s 10s/step - loss: 0.5372 - accuracy: 0.8093 - val_loss: 1.0393 - val_accuracy: 0.6776 Epoch 13/50 12/12 [=====] - 111s 9s/step - loss: 0.4993 - accuracy: 0.8256 - val_loss: 0.9891 - val_accuracy: 0.6776 Epoch 14/50 12/12 [=====] - 104s 9s/step - loss: 0.4266 - accuracy: 0.8774 - val_loss: 0.9555 - val_accuracy: 0.6908 Epoch 15/50 12/12 [=====] - 110s 10s/step - loss: 0.3613 - accuracy: 0.9019 - val_loss: 1.0150 - val_accuracy: 0.7105 Epoch 16/50 12/12 [=====] - 105s 9s/step - loss: 0.2981 - accuracy: 0.9074 - val_loss: 1.0401 - val_accuracy: 0.7434 Epoch 17/50 12/12 [=====] - 101s 9s/step - loss: 0.2324 - accuracy: 0.9183 - val_loss: 1.0407 - val_accuracy: 0.7368 Epoch 18/50 12/12 [=====] - 100s 8s/step - loss: 0.2719 - accuracy: 0.9210 - val_loss: 0.9512 - val_accuracy: 0.7303 Epoch 19/50 12/12 [=====] - 95s 8s/step - loss: 0.2421 - accuracy: 0.9183 - val_loss: 0.9829 - val_accuracy: 0.7500 Epoch 20/50 12/12 [=====] - 101s 9s/step - loss: 0.2351 - accuracy: 0.9128 - val_loss: 1.0070 - val_accuracy: 0.6974 Epoch 21/50 12/12 [=====] - 98s 8s/step - loss: 0.2330 - accuracy: 0.9264 - val_loss: 1.0552 - val_accuracy: 0.6776 Epoch 22/50 12/12 [=====] - 100s 8s/step - loss: 0.1531 - accuracy: 0.9564 - val_loss: 1.1341 - val_accuracy: 0.7303 Epoch 23/50 12/12 [=====] - 93s 8s/step - loss: 0.1180 - accuracy: 0.9591 - val_loss: 1.1339 - val_accuracy: 0.7237</div> <div>vgg_model.evaluate(test_set)</div> <div>5/5 [=====] - 17s 3s/step - loss: 0.9079 - accuracy: 0.7368</div> <div>[0.9079163074493408, 0.7368420958518982]</div>
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