

VGG19:

Epoch 1/100

97/97 [=====] - 46s 347ms/step - loss: 3.2458 - sparse_categorical_accuracy: 0.1274 - val_loss: 2.7996 - val_sparse_categorical_accuracy: 0.1000

Epoch 2/100

97/97 [=====] - 32s 332ms/step - loss: 2.2681 - sparse_categorical_accuracy: 0.1367 - val_loss: 2.3097 - val_sparse_categorical_accuracy: 0.1000

Epoch 3/100

97/97 [=====] - 32s 329ms/step - loss: 2.2134 - sparse_categorical_accuracy: 0.1672 - val_loss: 2.3180 - val_sparse_categorical_accuracy: 0.1000

Epoch 4/100

97/97 [=====] - 32s 332ms/step - loss: 2.1295 - sparse_categorical_accuracy: 0.2016 - val_loss: 2.3660 - val_sparse_categorical_accuracy: 0.1000

Epoch 5/100

97/97 [=====] - 32s 332ms/step - loss: 2.0880 - sparse_categorical_accuracy: 0.2276 - val_loss: 2.3428 - val_sparse_categorical_accuracy: 0.1180

Epoch 6/100

97/97 [=====] - 32s 328ms/step - loss: 1.9141 - sparse_categorical_accuracy: 0.3022 - val_loss: 5.8449 - val_sparse_categorical_accuracy: 0.1000

Epoch 7/100

97/97 [=====] - 32s 332ms/step - loss: 1.7556 - sparse_categorical_accuracy: 0.3626 - val_loss: 2.5664 - val_sparse_categorical_accuracy: 0.1977

Epoch 8/100

97/97 [=====] - 32s 328ms/step - loss: 1.6781 - sparse_categorical_accuracy: 0.3908 - val_loss: 1.7956 - val_sparse_categorical_accuracy: 0.3492

Epoch 9/100

97/97 [=====] - 32s 332ms/step - loss: 1.5959 - sparse_categorical_accuracy: 0.4213 - val_loss: 1.9755 - val_sparse_categorical_accuracy: 0.3477

Epoch 10/100

97/97 [=====] - 32s 329ms/step - loss: 1.5542 - sparse_categorical_accuracy: 0.4408 - val_loss: 1.8359 - val_sparse_categorical_accuracy: 0.3867

Epoch 11/100

97/97 [=====] - 32s 329ms/step - loss: 1.4839 - sparse_categorical_accuracy: 0.4749 - val_loss: 1.9316 - val_sparse_categorical_accuracy: 0.3547

Epoch 12/100

97/97 [=====] - 32s 329ms/step - loss: 1.4405 - sparse_categorical_accuracy: 0.4869 - val_loss: 2.2269 - val_sparse_categorical_accuracy: 0.3539

Epoch 13/100

97/97 [=====] - 32s 332ms/step - loss: 1.3896 - sparse_categorical_accuracy: 0.5124 - val_loss: 1.6322 - val_sparse_categorical_accuracy: 0.4344

Epoch 14/100

97/97 [=====] - 32s 331ms/step - loss: 1.3721 - sparse_categorical_accuracy: 0.5201 - val_loss: 2.0201 - val_sparse_categorical_accuracy: 0.3570

Epoch 15/100

97/97 [=====] - 32s 329ms/step - loss: 1.3225 - sparse_categorical_accuracy: 0.5382 - val_loss: 1.8175 - val_sparse_categorical_accuracy: 0.4023

Epoch 16/100

97/97 [=====] - 32s 332ms/step - loss: 1.2881 - sparse_categorical_accuracy: 0.5503 - val_loss: 1.6799 - val_sparse_categorical_accuracy: 0.4250

Epoch 17/100

97/97 [=====] - 32s 332ms/step - loss: 1.2207 - sparse_categorical_accuracy: 0.5764 - val_loss: 1.3891 - val_sparse_categorical_accuracy: 0.5070

Epoch 18/100

97/97 [=====] - 32s 332ms/step - loss: 1.1734 - sparse_categorical_accuracy: 0.5963 - val_loss: 2.2624 - val_sparse_categorical_accuracy: 0.4078

Epoch 19/100

97/97 [=====] - 32s 332ms/step - loss: 1.1459 - sparse_categorical_accuracy: 0.6097 - val_loss: 1.3297 - val_sparse_categorical_accuracy: 0.5625

Epoch 20/100

97/97 [=====] - 32s 328ms/step - loss: 1.0771 - sparse_categorical_accuracy: 0.6353 - val_loss: 2.4057 - val_sparse_categorical_accuracy: 0.4219

Epoch 21/100

97/97 [=====] - 32s 332ms/step - loss: 1.0103 - sparse_categorical_accuracy: 0.6605 - val_loss: 1.4065 - val_sparse_categorical_accuracy: 0.5359

Epoch 22/100

97/97 [=====] - 32s 332ms/step - loss: 0.9883 - sparse_categorical_accuracy: 0.6720 - val_loss: 1.5027 - val_sparse_categorical_accuracy: 0.5602

Epoch 23/100

97/97 [=====] - 32s 329ms/step - loss: 0.9402 - sparse_categorical_accuracy: 0.6885 - val_loss: 2.0765 - val_sparse_categorical_accuracy: 0.4805

Epoch 24/100

97/97 [=====] - 32s 329ms/step - loss: 0.8838 - sparse_categorical_accuracy: 0.7074 - val_loss: 1.4583 - val_sparse_categorical_accuracy: 0.5250

Epoch 25/100

97/97 [=====] - 32s 332ms/step - loss: 0.8511 - sparse_categorical_accuracy: 0.7133 - val_loss: 1.7085 - val_sparse_categorical_accuracy: 0.5461

Epoch 26/100

97/97 [=====] - 32s 332ms/step - loss: 0.8276 - sparse_categorical_accuracy: 0.7285 - val_loss: 1.4260 - val_sparse_categorical_accuracy: 0.5484

Epoch 27/100

97/97 [=====] - 32s 332ms/step - loss: 0.7710 - sparse_categorical_accuracy: 0.7464 - val_loss: 1.1554 - val_sparse_categorical_accuracy: 0.6375

Epoch 28/100

97/97 [=====] - 32s 329ms/step - loss: 0.7269 - sparse_categorical_accuracy: 0.7577 - val_loss: 1.2462 - val_sparse_categorical_accuracy: 0.6117

Epoch 29/100

97/97 [=====] - 32s 334ms/step - loss: 0.7080 - sparse_categorical_accuracy: 0.7647 - val_loss: 1.5373 - val_sparse_categorical_accuracy: 0.5805
Epoch 30/100
97/97 [=====] - 32s 331ms/step - loss: 0.6848 - sparse_categorical_accuracy: 0.7719 - val_loss: 1.0267 - val_sparse_categorical_accuracy: 0.6875
Epoch 31/100
97/97 [=====] - 32s 334ms/step - loss: 0.6376 - sparse_categorical_accuracy: 0.7904 - val_loss: 1.1289 - val_sparse_categorical_accuracy: 0.6344
Epoch 32/100
97/97 [=====] - 32s 334ms/step - loss: 0.6104 - sparse_categorical_accuracy: 0.8002 - val_loss: 1.1418 - val_sparse_categorical_accuracy: 0.6250
Epoch 33/100
97/97 [=====] - 32s 334ms/step - loss: 0.5995 - sparse_categorical_accuracy: 0.7988 - val_loss: 1.5554 - val_sparse_categorical_accuracy: 0.5742
Epoch 34/100
97/97 [=====] - 32s 330ms/step - loss: 0.5633 - sparse_categorical_accuracy: 0.8128 - val_loss: 0.9702 - val_sparse_categorical_accuracy: 0.7164
Epoch 35/100
97/97 [=====] - 32s 331ms/step - loss: 0.5386 - sparse_categorical_accuracy: 0.8266 - val_loss: 0.8814 - val_sparse_categorical_accuracy: 0.7141
Epoch 36/100
97/97 [=====] - 32s 334ms/step - loss: 0.4954 - sparse_categorical_accuracy: 0.8331 - val_loss: 1.5281 - val_sparse_categorical_accuracy: 0.6469
Epoch 37/100
97/97 [=====] - 32s 331ms/step - loss: 0.4737 - sparse_categorical_accuracy: 0.8425 - val_loss: 0.8823 - val_sparse_categorical_accuracy: 0.7141
Epoch 38/100
97/97 [=====] - 32s 333ms/step - loss: 0.4778 - sparse_categorical_accuracy: 0.8439 - val_loss: 0.9156 - val_sparse_categorical_accuracy: 0.7320
Epoch 39/100
97/97 [=====] - 32s 334ms/step - loss: 0.4473 - sparse_categorical_accuracy: 0.8538 - val_loss: 1.0541 - val_sparse_categorical_accuracy: 0.6930
Epoch 40/100
97/97 [=====] - 32s 334ms/step - loss: 0.4090 - sparse_categorical_accuracy: 0.8629 - val_loss: 0.8718 - val_sparse_categorical_accuracy: 0.7266
Epoch 41/100
97/97 [=====] - 32s 332ms/step - loss: 0.3748 - sparse_categorical_accuracy: 0.8717 - val_loss: 0.7494 - val_sparse_categorical_accuracy: 0.7766
Epoch 43/100
97/97 [=====] - 32s 332ms/step - loss: 0.3670 - sparse_categorical_accuracy: 0.8757 - val_loss: 0.8272 - val_sparse_categorical_accuracy: 0.7633
Epoch 44/100
97/97 [=====] - 32s 329ms/step - loss: 0.3462 - sparse_categorical_accuracy: 0.8833 - val_loss: 0.9746 - val_sparse_categorical_accuracy: 0.7102

Epoch 45/100
97/97 [=====] - 32s 332ms/step - loss: 0.3334 - sparse_categorical_accuracy: 0.8869 - val_loss: 0.8638 - val_sparse_categorical_accuracy: 0.7328

Epoch 46/100
97/97 [=====] - 32s 331ms/step - loss: 0.3212 - sparse_categorical_accuracy: 0.8902 - val_loss: 0.8082 - val_sparse_categorical_accuracy: 0.7742

Epoch 47/100
97/97 [=====] - 32s 329ms/step - loss: 0.3239 - sparse_categorical_accuracy: 0.8926 - val_loss: 0.7607 - val_sparse_categorical_accuracy: 0.7859

Epoch 48/100
97/97 [=====] - 32s 330ms/step - loss: 0.2931 - sparse_categorical_accuracy: 0.9010 - val_loss: 1.0003 - val_sparse_categorical_accuracy: 0.7531

Epoch 49/100
97/97 [=====] - 32s 333ms/step - loss: 0.3011 - sparse_categorical_accuracy: 0.8973 - val_loss: 0.9046 - val_sparse_categorical_accuracy: 0.7578

Epoch 50/100
97/97 [=====] - 32s 332ms/step - loss: 0.2545 - sparse_categorical_accuracy: 0.9101 - val_loss: 1.5032 - val_sparse_categorical_accuracy: 0.6828

Epoch 51/100
97/97 [=====] - 32s 332ms/step - loss: 0.3524 - sparse_categorical_accuracy: 0.8881 - val_loss: 0.7780 - val_sparse_categorical_accuracy: 0.7898

Epoch 52/100
97/97 [=====] - 32s 333ms/step - loss: 0.2592 - sparse_categorical_accuracy: 0.9118 - val_loss: 1.3179 - val_sparse_categorical_accuracy: 0.7039

Epoch 53/100
97/97 [=====] - 32s 328ms/step - loss: 0.2291 - sparse_categorical_accuracy: 0.9208 - val_loss: 0.9330 - val_sparse_categorical_accuracy: 0.7719

Epoch 54/100
97/97 [=====] - 32s 332ms/step - loss: 0.2232 - sparse_categorical_accuracy: 0.9242 - val_loss: 0.9328 - val_sparse_categorical_accuracy: 0.7922

Epoch 55/100
97/97 [=====] - 32s 332ms/step - loss: 0.2179 - sparse_categorical_accuracy: 0.9230 - val_loss: 1.1011 - val_sparse_categorical_accuracy: 0.7109

Epoch 56/100
97/97 [=====] - 32s 329ms/step - loss: 0.2249 - sparse_categorical_accuracy: 0.9264 - val_loss: 1.2688 - val_sparse_categorical_accuracy: 0.7281

Epoch 57/100
97/97 [=====] - 32s 331ms/step - loss: 0.2018 - sparse_categorical_accuracy: 0.9329 - val_loss: 1.1484 - val_sparse_categorical_accuracy: 0.7437

Epoch 58/100
97/97 [=====] - 32s 329ms/step - loss: 0.2055 - sparse_categorical_accuracy: 0.9298 - val_loss: 1.2635 - val_sparse_categorical_accuracy: 0.7141

Epoch 59/100

97/97 [=====] - 32s 332ms/step - loss: 0.2259 - sparse_categorical_accuracy: 0.9244 - val_loss: 0.8140 - val_sparse_categorical_accuracy: 0.7852

Epoch 60/100

97/97 [=====] - 32s 332ms/step - loss: 0.1872 - sparse_categorical_accuracy: 0.9368 - val_loss: 0.8065 - val_sparse_categorical_accuracy: 0.8008

Epoch 61/100

97/97 [=====] - 32s 333ms/step - loss: 0.1806 - sparse_categorical_accuracy: 0.9402 - val_loss: 1.1288 - val_sparse_categorical_accuracy: 0.7617

Epoch 62/100

97/97 [=====] - 32s 329ms/step - loss: 0.1870 - sparse_categorical_accuracy: 0.9365 - val_loss: 0.7673 - val_sparse_categorical_accuracy: 0.8109

Epoch 63/100

97/97 [=====] - 32s 332ms/step - loss: 0.1945 - sparse_categorical_accuracy: 0.9360 - val_loss: 1.0735 - val_sparse_categorical_accuracy: 0.7852

Epoch 64/100

97/97 [=====] - 32s 332ms/step - loss: 0.1593 - sparse_categorical_accuracy: 0.9495 - val_loss: 1.0331 - val_sparse_categorical_accuracy: 0.7648

Epoch 65/100

97/97 [=====] - 32s 329ms/step - loss: 0.1439 - sparse_categorical_accuracy: 0.9513 - val_loss: 0.8731 - val_sparse_categorical_accuracy: 0.7930

Epoch 66/100

97/97 [=====] - 32s 329ms/step - loss: 0.1561 - sparse_categorical_accuracy: 0.9476 - val_loss: 0.9480 - val_sparse_categorical_accuracy: 0.7688

Epoch 67/100

97/97 [=====] - 32s 328ms/step - loss: 0.1396 - sparse_categorical_accuracy: 0.9541 - val_loss: 1.3715 - val_sparse_categorical_accuracy: 0.7367

Epoch 68/100

97/97 [=====] - 32s 332ms/step - loss: 0.1578 - sparse_categorical_accuracy: 0.9472 - val_loss: 1.1076 - val_sparse_categorical_accuracy: 0.7773

Epoch 69/100

97/97 [=====] - 32s 329ms/step - loss: 0.1377 - sparse_categorical_accuracy: 0.9529 - val_loss: 1.2122 - val_sparse_categorical_accuracy: 0.7711

Epoch 70/100

97/97 [=====] - 32s 328ms/step - loss: 0.1485 - sparse_categorical_accuracy: 0.9490 - val_loss: 0.8937 - val_sparse_categorical_accuracy: 0.7937

Epoch 71/100

97/97 [=====] - 32s 332ms/step - loss: 0.1273 - sparse_categorical_accuracy: 0.9584 - val_loss: 0.8439 - val_sparse_categorical_accuracy: 0.8195

Epoch 72/100

97/97 [=====] - 32s 329ms/step - loss: 0.1272 - sparse_categorical_accuracy: 0.9605 - val_loss: 0.7020 - val_sparse_categorical_accuracy: 0.8203

Epoch 73/100

97/97 [=====] - 32s 329ms/step - loss: 0.1094 - sparse_categorical_accuracy: 0.9615 - val_loss: 0.9990 - val_sparse_categorical_accuracy: 0.7992

Epoch 74/100
97/97 [=====] - 32s 332ms/step - loss: 0.1097 - sparse_categorical_accuracy: 0.9639 - val_loss: 0.9583 - val_sparse_categorical_accuracy: 0.7891

Epoch 75/100
97/97 [=====] - 32s 329ms/step - loss: 0.1051 - sparse_categorical_accuracy: 0.9656 - val_loss: 1.0161 - val_sparse_categorical_accuracy: 0.7883

Epoch 76/100
97/97 [=====] - 32s 332ms/step - loss: 0.0971 - sparse_categorical_accuracy: 0.9679 - val_loss: 1.1287 - val_sparse_categorical_accuracy: 0.7484

Epoch 77/100
97/97 [=====] - 32s 332ms/step - loss: 0.1132 - sparse_categorical_accuracy: 0.9639 - val_loss: 0.9461 - val_sparse_categorical_accuracy: 0.7937

Epoch 78/100
97/97 [=====] - 32s 332ms/step - loss: 0.1052 - sparse_categorical_accuracy: 0.9657 - val_loss: 0.9592 - val_sparse_categorical_accuracy: 0.7953

Epoch 79/100
97/97 [=====] - 32s 332ms/step - loss: 0.0987 - sparse_categorical_accuracy: 0.9681 - val_loss: 1.0475 - val_sparse_categorical_accuracy: 0.8000

Epoch 80/100
97/97 [=====] - 32s 332ms/step - loss: 0.1055 - sparse_categorical_accuracy: 0.9666 - val_loss: 0.8462 - val_sparse_categorical_accuracy: 0.8141

Epoch 81/100
97/97 [=====] - 32s 329ms/step - loss: 0.1232 - sparse_categorical_accuracy: 0.9597 - val_loss: 0.9205 - val_sparse_categorical_accuracy: 0.8039

Epoch 82/100
97/97 [=====] - 32s 332ms/step - loss: 0.0773 - sparse_categorical_accuracy: 0.9738 - val_loss: 1.6804 - val_sparse_categorical_accuracy: 0.7492

Epoch 83/100
97/97 [=====] - 32s 329ms/step - loss: 0.1035 - sparse_categorical_accuracy: 0.9674 - val_loss: 0.9512 - val_sparse_categorical_accuracy: 0.7961

Epoch 84/100
97/97 [=====] - 32s 332ms/step - loss: 0.0894 - sparse_categorical_accuracy: 0.9709 - val_loss: 0.9135 - val_sparse_categorical_accuracy: 0.8039

Epoch 85/100
97/97 [=====] - 32s 328ms/step - loss: 0.0702 - sparse_categorical_accuracy: 0.9780 - val_loss: 1.8101 - val_sparse_categorical_accuracy: 0.6945

Epoch 86/100
97/97 [=====] - 32s 329ms/step - loss: 0.0851 - sparse_categorical_accuracy: 0.9731 - val_loss: 0.9272 - val_sparse_categorical_accuracy: 0.8000

Epoch 87/100
97/97 [=====] - 32s 329ms/step - loss: 0.0697 - sparse_categorical_accuracy: 0.9773 - val_loss: 1.2101 - val_sparse_categorical_accuracy: 0.7820

Epoch 88/100

97/97 [=====] - 32s 332ms/step - loss: 0.0844 - sparse_categorical_accuracy: 0.9730 - val_loss: 1.0599 - val_sparse_categorical_accuracy: 0.7859
Epoch 89/100
97/97 [=====] - 32s 332ms/step - loss: 0.0800 - sparse_categorical_accuracy: 0.9749 - val_loss: 1.2363 - val_sparse_categorical_accuracy: 0.7492
Epoch 90/100
97/97 [=====] - 32s 332ms/step - loss: 0.0723 - sparse_categorical_accuracy: 0.9763 - val_loss: 1.2876 - val_sparse_categorical_accuracy: 0.7781
Epoch 91/100
97/97 [=====] - 32s 329ms/step - loss: 0.0757 - sparse_categorical_accuracy: 0.9743 - val_loss: 0.9984 - val_sparse_categorical_accuracy: 0.8039
Epoch 92/100
97/97 [=====] - 32s 329ms/step - loss: 0.0911 - sparse_categorical_accuracy: 0.9715 - val_loss: 0.9694 - val_sparse_categorical_accuracy: 0.8109
Epoch 93/100
97/97 [=====] - 32s 329ms/step - loss: 0.0658 - sparse_categorical_accuracy: 0.9804 - val_loss: 1.2131 - val_sparse_categorical_accuracy: 0.7766
Epoch 94/100
97/97 [=====] - 32s 329ms/step - loss: 0.0670 - sparse_categorical_accuracy: 0.9778 - val_loss: 2.0472 - val_sparse_categorical_accuracy: 0.7000
Epoch 95/100
97/97 [=====] - 32s 329ms/step - loss: 0.0735 - sparse_categorical_accuracy: 0.9801 - val_loss: 0.9101 - val_sparse_categorical_accuracy: 0.8180
Epoch 96/100
97/97 [=====] - 32s 332ms/step - loss: 0.0669 - sparse_categorical_accuracy: 0.9774 - val_loss: 1.3630 - val_sparse_categorical_accuracy: 0.7609
Epoch 97/100
97/97 [=====] - 32s 329ms/step - loss: 0.0782 - sparse_categorical_accuracy: 0.9773 - val_loss: 0.9684 - val_sparse_categorical_accuracy: 0.8148
Epoch 98/100
97/97 [=====] - 32s 329ms/step - loss: 0.0913 - sparse_categorical_accuracy: 0.9709 - val_loss: 0.9443 - val_sparse_categorical_accuracy: 0.8016
Epoch 99/100
97/97 [=====] - 32s 332ms/step - loss: 0.0625 - sparse_categorical_accuracy: 0.9808 - val_loss: 1.0460 - val_sparse_categorical_accuracy: 0.7977
Epoch 100/100
97/97 [=====] - 32s 329ms/step - loss: 0.0673 - sparse_categorical_accuracy: 0.9804 - val_loss: 1.3002 - val_sparse_categorical_accuracy: 0.7688
Model: "vg_g19"

Layer (type)	Output Shape	Param #
=====		
conv2d_20 (Conv2D)	multiple	1792

batch_normalization_16 (Batch Normalization)	multiple	256
activation_16 (Activation)	multiple	0
conv2d_21 (Conv2D)	multiple	36928
batch_normalization_17 (Batch Normalization)	multiple	256
activation_17 (Activation)	multiple	0
max_pooling2d_10 (MaxPooling2D)	multiple	0
dropout_9 (Dropout)	multiple	0
conv2d_22 (Conv2D)	multiple	73856
batch_normalization_18 (Batch Normalization)	multiple	512
activation_18 (Activation)	multiple	0
conv2d_23 (Conv2D)	multiple	147584
batch_normalization_19 (Batch Normalization)	multiple	512
activation_19 (Activation)	multiple	0
max_pooling2d_11 (MaxPooling2D)	multiple	0
dropout_10 (Dropout)	multiple	0
conv2d_24 (Conv2D)	multiple	295168
batch_normalization_20 (Batch Normalization)	multiple	1024
activation_20 (Activation)	multiple	0
conv2d_25 (Conv2D)	multiple	590080
batch_normalization_21 (Batch Normalization)	multiple	1024
activation_21 (Activation)	multiple	0
conv2d_26 (Conv2D)	multiple	590080

batch_normalization_22 (Batch Normalization)	multiple	1024
activation_22 (Activation)	multiple	0
conv2d_27 (Conv2D)	multiple	590080
batch_normalization_23 (Batch Normalization)	multiple	1024
activation_23 (Activation)	multiple	0
max_pooling2d_12 (MaxPooling)	multiple	0
dropout_11 (Dropout)	multiple	0
conv2d_28 (Conv2D)	multiple	1180160
batch_normalization_24 (Batch Normalization)	multiple	2048
activation_24 (Activation)	multiple	0
conv2d_29 (Conv2D)	multiple	2359808
batch_normalization_25 (Batch Normalization)	multiple	2048
activation_25 (Activation)	multiple	0
conv2d_30 (Conv2D)	multiple	2359808
batch_normalization_26 (Batch Normalization)	multiple	2048
activation_26 (Activation)	multiple	0
conv2d_31 (Conv2D)	multiple	2359808
batch_normalization_27 (Batch Normalization)	multiple	2048
activation_27 (Activation)	multiple	0
max_pooling2d_13 (MaxPooling)	multiple	0
dropout_12 (Dropout)	multiple	0
conv2d_32 (Conv2D)	multiple	2359808

batch_normalization_28 (Batch Normalization)	multiple	2048
activation_28 (Activation)	multiple	0
conv2d_33 (Conv2D)	multiple	2359808
batch_normalization_29 (Batch Normalization)	multiple	2048
activation_29 (Activation)	multiple	0
conv2d_34 (Conv2D)	multiple	2359808
batch_normalization_30 (Batch Normalization)	multiple	2048
activation_30 (Activation)	multiple	0
conv2d_35 (Conv2D)	multiple	2359808
batch_normalization_31 (Batch Normalization)	multiple	2048
activation_31 (Activation)	multiple	0
max_pooling2d_14 (MaxPooling2D)	multiple	0
dropout_13 (Dropout)	multiple	0
flatten_3 (Flatten)	multiple	0
dense_9 (Dense)	multiple	18878464
dropout_14 (Dropout)	multiple	0
dense_10 (Dense)	multiple	4195328
dropout_15 (Dropout)	multiple	0
dense_11 (Dense)	multiple	10250
=====		
Total params: 43,130,442		
Trainable params: 43,119,434		
Non-trainable params: 11,008		

Training and Validation Accuracy Training and Validation Loss

