<https://codeshare.io/xvEJzN>

2022-08-23 11:47:43.638168: W tensorflow/core/common\_runtime/gpu/gpu\_bfc\_allocator.cc:39] Overriding allow\_growth setting because the TF\_FORCE\_GPU\_ALLOW\_GROWTH environment variable is set. Original config value was 0.

Found GPU at: /device:GPU:0

Model: "model"

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Layer (type) Output Shape Param # Connected to

==================================================================================================

input\_1 (InputLayer) [(None, 240, 240, 3 0 []

)]

convI (Conv2D) (None, 118, 118, 32 2400 ['input\_1[0][0]']

)

batch\_normalization (BatchNorm (None, 118, 118, 32 128 ['convI[0][0]']

alization) )

lambda (Lambda) (None, 118, 118, 32 0 ['batch\_normalization[0][0]']

)

conv\_2d\_redu\_1 (Conv2D) (None, 118, 118, 16 512 ['lambda[0][0]']

)

atrous\_redu\_bn\_1 (BatchNormali (None, 118, 118, 16 64 ['conv\_2d\_redu\_1[0][0]']

zation) )

lambda\_1 (Lambda) (None, 118, 118, 16 0 ['atrous\_redu\_bn\_1[0][0]']

)

atrous\_depth\_conv\_1\_0 (Depthwi (None, 118, 118, 16 144 ['lambda\_1[0][0]']

seConv2D) )

atrous\_depth\_conv\_1\_1 (Depthwi (None, 118, 118, 16 144 ['lambda\_1[0][0]']

seConv2D) )

atrous\_depth\_conv\_1\_2 (Depthwi (None, 118, 118, 16 144 ['lambda\_1[0][0]']

seConv2D) )

atrous\_bn\_1\_0 (BatchNormalizat (None, 118, 118, 16 64 ['atrous\_depth\_conv\_1\_0[0][0]']

ion) )

atrous\_bn\_1\_1 (BatchNormalizat (None, 118, 118, 16 64 ['atrous\_depth\_conv\_1\_1[0][0]']

ion) )

atrous\_bn\_1\_2 (BatchNormalizat (None, 118, 118, 16 64 ['atrous\_depth\_conv\_1\_2[0][0]']

ion) )

lambda\_2 (Lambda) (None, 118, 118, 16 0 ['atrous\_bn\_1\_0[0][0]']

)

lambda\_3 (Lambda) (None, 118, 118, 16 0 ['atrous\_bn\_1\_1[0][0]']

)

lambda\_4 (Lambda) (None, 118, 118, 16 0 ['atrous\_bn\_1\_2[0][0]']

)

add\_1 (Add) (None, 118, 118, 16 0 ['lambda\_1[0][0]',

) 'lambda\_2[0][0]',

'lambda\_3[0][0]',

'lambda\_4[0][0]']

conv\_2d\_1 (Conv2D) (None, 118, 118, 64 1024 ['add\_1[0][0]']

)

cnv\_bn\_1 (BatchNormalization) (None, 118, 118, 64 256 ['conv\_2d\_1[0][0]']

)

lambda\_5 (Lambda) (None, 118, 118, 64 0 ['cnv\_bn\_1[0][0]']

)

max\_pooling2d (MaxPooling2D) (None, 59, 59, 64) 0 ['lambda\_5[0][0]']

conv\_2d\_redu\_2 (Conv2D) (None, 59, 59, 32) 2048 ['max\_pooling2d[0][0]']

atrous\_redu\_bn\_2 (BatchNormali (None, 59, 59, 32) 128 ['conv\_2d\_redu\_2[0][0]']

zation)

lambda\_6 (Lambda) (None, 59, 59, 32) 0 ['atrous\_redu\_bn\_2[0][0]']

atrous\_depth\_conv\_2\_0 (Depthwi (None, 59, 59, 32) 288 ['lambda\_6[0][0]']

seConv2D)

atrous\_depth\_conv\_2\_1 (Depthwi (None, 59, 59, 32) 288 ['lambda\_6[0][0]']

seConv2D)

atrous\_depth\_conv\_2\_2 (Depthwi (None, 59, 59, 32) 288 ['lambda\_6[0][0]']

seConv2D)

atrous\_bn\_2\_0 (BatchNormalizat (None, 59, 59, 32) 128 ['atrous\_depth\_conv\_2\_0[0][0]']

ion)

atrous\_bn\_2\_1 (BatchNormalizat (None, 59, 59, 32) 128 ['atrous\_depth\_conv\_2\_1[0][0]']

ion)

atrous\_bn\_2\_2 (BatchNormalizat (None, 59, 59, 32) 128 ['atrous\_depth\_conv\_2\_2[0][0]']

ion)

lambda\_7 (Lambda) (None, 59, 59, 32) 0 ['atrous\_bn\_2\_0[0][0]']

lambda\_8 (Lambda) (None, 59, 59, 32) 0 ['atrous\_bn\_2\_1[0][0]']

lambda\_9 (Lambda) (None, 59, 59, 32) 0 ['atrous\_bn\_2\_2[0][0]']

add\_2 (Add) (None, 59, 59, 32) 0 ['lambda\_6[0][0]',

'lambda\_7[0][0]',

'lambda\_8[0][0]',

'lambda\_9[0][0]']

conv\_2d\_2 (Conv2D) (None, 59, 59, 96) 3072 ['add\_2[0][0]']

cnv\_bn\_2 (BatchNormalization) (None, 59, 59, 96) 384 ['conv\_2d\_2[0][0]']

lambda\_10 (Lambda) (None, 59, 59, 96) 0 ['cnv\_bn\_2[0][0]']

max\_pooling2d\_1 (MaxPooling2D) (None, 29, 29, 96) 0 ['lambda\_10[0][0]']

conv\_2d\_redu\_3 (Conv2D) (None, 29, 29, 48) 4608 ['max\_pooling2d\_1[0][0]']

atrous\_redu\_bn\_3 (BatchNormali (None, 29, 29, 48) 192 ['conv\_2d\_redu\_3[0][0]']

zation)

lambda\_11 (Lambda) (None, 29, 29, 48) 0 ['atrous\_redu\_bn\_3[0][0]']

atrous\_depth\_conv\_3\_0 (Depthwi (None, 29, 29, 48) 432 ['lambda\_11[0][0]']

seConv2D)

atrous\_depth\_conv\_3\_1 (Depthwi (None, 29, 29, 48) 432 ['lambda\_11[0][0]']

seConv2D)

atrous\_depth\_conv\_3\_2 (Depthwi (None, 29, 29, 48) 432 ['lambda\_11[0][0]']

seConv2D)

atrous\_bn\_3\_0 (BatchNormalizat (None, 29, 29, 48) 192 ['atrous\_depth\_conv\_3\_0[0][0]']

ion)

atrous\_bn\_3\_1 (BatchNormalizat (None, 29, 29, 48) 192 ['atrous\_depth\_conv\_3\_1[0][0]']

ion)

atrous\_bn\_3\_2 (BatchNormalizat (None, 29, 29, 48) 192 ['atrous\_depth\_conv\_3\_2[0][0]']

ion)

lambda\_12 (Lambda) (None, 29, 29, 48) 0 ['atrous\_bn\_3\_0[0][0]']

lambda\_13 (Lambda) (None, 29, 29, 48) 0 ['atrous\_bn\_3\_1[0][0]']

lambda\_14 (Lambda) (None, 29, 29, 48) 0 ['atrous\_bn\_3\_2[0][0]']

add\_3 (Add) (None, 29, 29, 48) 0 ['lambda\_11[0][0]',

'lambda\_12[0][0]',

'lambda\_13[0][0]',

'lambda\_14[0][0]']

conv\_2d\_3 (Conv2D) (None, 29, 29, 128) 6144 ['add\_3[0][0]']

cnv\_bn\_3 (BatchNormalization) (None, 29, 29, 128) 512 ['conv\_2d\_3[0][0]']

lambda\_15 (Lambda) (None, 29, 29, 128) 0 ['cnv\_bn\_3[0][0]']

max\_pooling2d\_2 (MaxPooling2D) (None, 14, 14, 128) 0 ['lambda\_15[0][0]']

conv\_2d\_redu\_4 (Conv2D) (None, 14, 14, 64) 8192 ['max\_pooling2d\_2[0][0]']

atrous\_redu\_bn\_4 (BatchNormali (None, 14, 14, 64) 256 ['conv\_2d\_redu\_4[0][0]']

zation)

lambda\_16 (Lambda) (None, 14, 14, 64) 0 ['atrous\_redu\_bn\_4[0][0]']

atrous\_depth\_conv\_4\_0 (Depthwi (None, 14, 14, 64) 576 ['lambda\_16[0][0]']

seConv2D)

atrous\_depth\_conv\_4\_1 (Depthwi (None, 14, 14, 64) 576 ['lambda\_16[0][0]']

seConv2D)

atrous\_depth\_conv\_4\_2 (Depthwi (None, 14, 14, 64) 576 ['lambda\_16[0][0]']

seConv2D)

atrous\_bn\_4\_0 (BatchNormalizat (None, 14, 14, 64) 256 ['atrous\_depth\_conv\_4\_0[0][0]']

ion)

atrous\_bn\_4\_1 (BatchNormalizat (None, 14, 14, 64) 256 ['atrous\_depth\_conv\_4\_1[0][0]']

ion)

atrous\_bn\_4\_2 (BatchNormalizat (None, 14, 14, 64) 256 ['atrous\_depth\_conv\_4\_2[0][0]']

ion)

lambda\_17 (Lambda) (None, 14, 14, 64) 0 ['atrous\_bn\_4\_0[0][0]']

lambda\_18 (Lambda) (None, 14, 14, 64) 0 ['atrous\_bn\_4\_1[0][0]']

lambda\_19 (Lambda) (None, 14, 14, 64) 0 ['atrous\_bn\_4\_2[0][0]']

add\_4 (Add) (None, 14, 14, 64) 0 ['lambda\_16[0][0]',

'lambda\_17[0][0]',

'lambda\_18[0][0]',

'lambda\_19[0][0]']

conv\_2d\_4 (Conv2D) (None, 14, 14, 128) 8192 ['add\_4[0][0]']

cnv\_bn\_4 (BatchNormalization) (None, 14, 14, 128) 512 ['conv\_2d\_4[0][0]']

lambda\_20 (Lambda) (None, 14, 14, 128) 0 ['cnv\_bn\_4[0][0]']

conv\_2d\_redu\_5 (Conv2D) (None, 14, 14, 64) 8192 ['lambda\_20[0][0]']

atrous\_redu\_bn\_5 (BatchNormali (None, 14, 14, 64) 256 ['conv\_2d\_redu\_5[0][0]']

zation)

lambda\_21 (Lambda) (None, 14, 14, 64) 0 ['atrous\_redu\_bn\_5[0][0]']

atrous\_depth\_conv\_5\_0 (Depthwi (None, 14, 14, 64) 576 ['lambda\_21[0][0]']

seConv2D)

atrous\_depth\_conv\_5\_1 (Depthwi (None, 14, 14, 64) 576 ['lambda\_21[0][0]']

seConv2D)

atrous\_depth\_conv\_5\_2 (Depthwi (None, 14, 14, 64) 576 ['lambda\_21[0][0]']

seConv2D)

atrous\_bn\_5\_0 (BatchNormalizat (None, 14, 14, 64) 256 ['atrous\_depth\_conv\_5\_0[0][0]']

ion)

atrous\_bn\_5\_1 (BatchNormalizat (None, 14, 14, 64) 256 ['atrous\_depth\_conv\_5\_1[0][0]']

ion)

atrous\_bn\_5\_2 (BatchNormalizat (None, 14, 14, 64) 256 ['atrous\_depth\_conv\_5\_2[0][0]']

ion)

lambda\_22 (Lambda) (None, 14, 14, 64) 0 ['atrous\_bn\_5\_0[0][0]']

lambda\_23 (Lambda) (None, 14, 14, 64) 0 ['atrous\_bn\_5\_1[0][0]']

lambda\_24 (Lambda) (None, 14, 14, 64) 0 ['atrous\_bn\_5\_2[0][0]']

add\_5 (Add) (None, 14, 14, 64) 0 ['lambda\_21[0][0]',

'lambda\_22[0][0]',

'lambda\_23[0][0]',

'lambda\_24[0][0]']

conv\_2d\_5 (Conv2D) (None, 14, 14, 128) 8192 ['add\_5[0][0]']

cnv\_bn\_5 (BatchNormalization) (None, 14, 14, 128) 512 ['conv\_2d\_5[0][0]']

lambda\_25 (Lambda) (None, 14, 14, 128) 0 ['cnv\_bn\_5[0][0]']

conv\_2d\_redu\_6 (Conv2D) (None, 14, 14, 64) 8192 ['lambda\_25[0][0]']

atrous\_redu\_bn\_6 (BatchNormali (None, 14, 14, 64) 256 ['conv\_2d\_redu\_6[0][0]']

zation)

lambda\_26 (Lambda) (None, 14, 14, 64) 0 ['atrous\_redu\_bn\_6[0][0]']

atrous\_depth\_conv\_6\_0 (Depthwi (None, 14, 14, 64) 576 ['lambda\_26[0][0]']

seConv2D)

atrous\_depth\_conv\_6\_1 (Depthwi (None, 14, 14, 64) 576 ['lambda\_26[0][0]']

seConv2D)

atrous\_depth\_conv\_6\_2 (Depthwi (None, 14, 14, 64) 576 ['lambda\_26[0][0]']

seConv2D)

atrous\_bn\_6\_0 (BatchNormalizat (None, 14, 14, 64) 256 ['atrous\_depth\_conv\_6\_0[0][0]']

ion)

atrous\_bn\_6\_1 (BatchNormalizat (None, 14, 14, 64) 256 ['atrous\_depth\_conv\_6\_1[0][0]']

ion)

atrous\_bn\_6\_2 (BatchNormalizat (None, 14, 14, 64) 256 ['atrous\_depth\_conv\_6\_2[0][0]']

ion)

lambda\_27 (Lambda) (None, 14, 14, 64) 0 ['atrous\_bn\_6\_0[0][0]']

lambda\_28 (Lambda) (None, 14, 14, 64) 0 ['atrous\_bn\_6\_1[0][0]']

lambda\_29 (Lambda) (None, 14, 14, 64) 0 ['atrous\_bn\_6\_2[0][0]']

add\_6 (Add) (None, 14, 14, 64) 0 ['lambda\_26[0][0]',

'lambda\_27[0][0]',

'lambda\_28[0][0]',

'lambda\_29[0][0]']

conv\_2d\_6 (Conv2D) (None, 14, 14, 256) 16384 ['add\_6[0][0]']

cnv\_bn\_6 (BatchNormalization) (None, 14, 14, 256) 1024 ['conv\_2d\_6[0][0]']

lambda\_30 (Lambda) (None, 14, 14, 256) 0 ['cnv\_bn\_6[0][0]']

separable\_conv2d (SeparableCon (None, 14, 14, 3) 1024 ['lambda\_30[0][0]']

v2D)

batch\_normalization\_1 (BatchNo (None, 14, 14, 3) 12 ['separable\_conv2d[0][0]']

rmalization)

lambda\_31 (Lambda) (None, 14, 14, 3) 0 ['batch\_normalization\_1[0][0]']

global\_average\_pooling2d (Glob (None, 3) 0 ['lambda\_31[0][0]']

alAveragePooling2D)

class\_branch (Activation) (None, 3) 0 ['global\_average\_pooling2d[0][0]'

]

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Total params: 93,900

Trainable params: 89,926

Non-trainable params: 3,974

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/usr/local/lib/python3.7/dist-packages/albumentations/imgaug/transforms.py:386: FutureWarning: This IAAPerspective is deprecated. Please use Perspective instead

warnings.warn("This IAAPerspective is deprecated. Please use Perspective instead", FutureWarning)

Found 1721 images belonging to 3 classes.

Found 428 images belonging to 3 classes.

/usr/local/lib/python3.7/dist-packages/keras/optimizer\_v2/gradient\_descent.py:102: UserWarning: The `lr` argument is deprecated, use `learning\_rate` instead.

super(SGD, self).\_\_init\_\_(name, \*\*kwargs)

Epoch 1: LearningRateScheduler setting learning rate to 0.1.

Epoch 1/300

26/26 [==============================] - ETA: 0s - loss: 1.8121 - categorical\_accuracy: 0.7554

Epoch 1: val\_categorical\_accuracy improved from -inf to 0.48958, saving model to ../results/model.h5

Epoch 1: val\_categorical\_accuracy improved from -inf to 0.48958, saving model to ../results/model\_weights.h5

26/26 [==============================] - 32s 816ms/step - loss: 1.8121 - categorical\_accuracy: 0.7554 - val\_loss: 2.1935 - val\_categorical\_accuracy: 0.4896 - lr: 0.1000

Epoch 2: LearningRateScheduler setting learning rate to 0.09999725846827562.

Epoch 2/300

26/26 [==============================] - ETA: 0s - loss: 1.5503 - categorical\_accuracy: 0.8877

Epoch 2: val\_categorical\_accuracy did not improve from 0.48958

Epoch 2: val\_categorical\_accuracy did not improve from 0.48958

26/26 [==============================] - 22s 742ms/step - loss: 1.5503 - categorical\_accuracy: 0.8877 - val\_loss: 2.2283 - val\_categorical\_accuracy: 0.4896 - lr: 0.1000

Epoch 3: LearningRateScheduler setting learning rate to 0.09998903417374227.

Epoch 3/300

26/26 [==============================] - ETA: 0s - loss: 1.4361 - categorical\_accuracy: 0.9221

Epoch 3: val\_categorical\_accuracy did not improve from 0.48958

Epoch 3: val\_categorical\_accuracy did not improve from 0.48958

26/26 [==============================] - 21s 712ms/step - loss: 1.4361 - categorical\_accuracy: 0.9221 - val\_loss: 2.3339 - val\_categorical\_accuracy: 0.4896 - lr: 0.1000

Epoch 4: LearningRateScheduler setting learning rate to 0.09997532801828658.

Epoch 4/300

26/26 [==============================] - ETA: 0s - loss: 1.3747 - categorical\_accuracy: 0.9300

Epoch 4: val\_categorical\_accuracy did not improve from 0.48958

Epoch 4: val\_categorical\_accuracy did not improve from 0.48958

26/26 [==============================] - 21s 723ms/step - loss: 1.3747 - categorical\_accuracy: 0.9300 - val\_loss: 2.3421 - val\_categorical\_accuracy: 0.4896 - lr: 0.1000

Epoch 5: LearningRateScheduler setting learning rate to 0.09995614150494292.

Epoch 5/300

26/26 [==============================] - ETA: 0s - loss: 1.3077 - categorical\_accuracy: 0.9433

Epoch 5: val\_categorical\_accuracy did not improve from 0.48958

Epoch 5: val\_categorical\_accuracy did not improve from 0.48958

26/26 [==============================] - 21s 724ms/step - loss: 1.3077 - categorical\_accuracy: 0.9433 - val\_loss: 2.4184 - val\_categorical\_accuracy: 0.4896 - lr: 0.1000

Epoch 6: LearningRateScheduler setting learning rate to 0.09993147673772869.

Epoch 6/300

26/26 [==============================] - ETA: 0s - loss: 1.2558 - categorical\_accuracy: 0.9451

Epoch 6: val\_categorical\_accuracy did not improve from 0.48958

Epoch 6: val\_categorical\_accuracy did not improve from 0.48958

26/26 [==============================] - 21s 714ms/step - loss: 1.2558 - categorical\_accuracy: 0.9451 - val\_loss: 2.4764 - val\_categorical\_accuracy: 0.4896 - lr: 0.0999

Epoch 7: LearningRateScheduler setting learning rate to 0.09990133642141358.

Epoch 7/300

26/26 [==============================] - ETA: 0s - loss: 1.1873 - categorical\_accuracy: 0.9602

Epoch 7: val\_categorical\_accuracy did not improve from 0.48958

Epoch 7: val\_categorical\_accuracy did not improve from 0.48958

26/26 [==============================] - 22s 715ms/step - loss: 1.1873 - categorical\_accuracy: 0.9602 - val\_loss: 2.5347 - val\_categorical\_accuracy: 0.4896 - lr: 0.0999

Epoch 8: LearningRateScheduler setting learning rate to 0.0998657238612229.

Epoch 8/300

26/26 [==============================] - ETA: 0s - loss: 1.1446 - categorical\_accuracy: 0.9638

Epoch 8: val\_categorical\_accuracy did not improve from 0.48958

Epoch 8: val\_categorical\_accuracy did not improve from 0.48958

26/26 [==============================] - 21s 707ms/step - loss: 1.1446 - categorical\_accuracy: 0.9638 - val\_loss: 2.6201 - val\_categorical\_accuracy: 0.4896 - lr: 0.0999

Epoch 9: LearningRateScheduler setting learning rate to 0.09982464296247523.

Epoch 9/300

26/26 [==============================] - ETA: 0s - loss: 1.1172 - categorical\_accuracy: 0.9559

Epoch 9: val\_categorical\_accuracy did not improve from 0.48958

Epoch 9: val\_categorical\_accuracy did not improve from 0.48958

26/26 [==============================] - 22s 724ms/step - loss: 1.1172 - categorical\_accuracy: 0.9559 - val\_loss: 2.6562 - val\_categorical\_accuracy: 0.4896 - lr: 0.0998

Epoch 10: LearningRateScheduler setting learning rate to 0.099778098230154.

Epoch 10/300

26/26 [==============================] - ETA: 0s - loss: 1.0554 - categorical\_accuracy: 0.9710

Epoch 10: val\_categorical\_accuracy did not improve from 0.48958

Epoch 10: val\_categorical\_accuracy did not improve from 0.48958

26/26 [==============================] - 21s 721ms/step - loss: 1.0554 - categorical\_accuracy: 0.9710 - val\_loss: 2.5681 - val\_categorical\_accuracy: 0.4896 - lr: 0.0998

Epoch 11: LearningRateScheduler setting learning rate to 0.09972609476841367.

Epoch 11/300

26/26 [==============================] - ETA: 0s - loss: 1.0116 - categorical\_accuracy: 0.9753

Epoch 11: val\_categorical\_accuracy did not improve from 0.48958

Epoch 11: val\_categorical\_accuracy did not improve from 0.48958

26/26 [==============================] - 21s 726ms/step - loss: 1.0116 - categorical\_accuracy: 0.9753 - val\_loss: 2.6946 - val\_categorical\_accuracy: 0.4896 - lr: 0.0997

Epoch 12: LearningRateScheduler setting learning rate to 0.09966863828001982.

Epoch 12/300

26/26 [==============================] - ETA: 0s - loss: 0.9802 - categorical\_accuracy: 0.9728

Epoch 12: val\_categorical\_accuracy did not improve from 0.48958

Epoch 12: val\_categorical\_accuracy did not improve from 0.48958

26/26 [==============================] - 23s 725ms/step - loss: 0.9802 - categorical\_accuracy: 0.9728 - val\_loss: 2.6481 - val\_categorical\_accuracy: 0.4896 - lr: 0.0997

Epoch 13: LearningRateScheduler setting learning rate to 0.0996057350657239.

Epoch 13/300

26/26 [==============================] - ETA: 0s - loss: 0.9447 - categorical\_accuracy: 0.9789

Epoch 13: val\_categorical\_accuracy did not improve from 0.48958

Epoch 13: val\_categorical\_accuracy did not improve from 0.48958

26/26 [==============================] - 21s 715ms/step - loss: 0.9447 - categorical\_accuracy: 0.9789 - val\_loss: 2.5760 - val\_categorical\_accuracy: 0.4896 - lr: 0.0996

Epoch 14: LearningRateScheduler setting learning rate to 0.09953739202357219.

Epoch 14/300

26/26 [==============================] - ETA: 0s - loss: 0.9108 - categorical\_accuracy: 0.9753

Epoch 14: val\_categorical\_accuracy did not improve from 0.48958

Epoch 14: val\_categorical\_accuracy did not improve from 0.48958

26/26 [==============================] - 21s 717ms/step - loss: 0.9108 - categorical\_accuracy: 0.9753 - val\_loss: 2.6291 - val\_categorical\_accuracy: 0.4896 - lr: 0.0995

Epoch 15: LearningRateScheduler setting learning rate to 0.09946361664814943.

Epoch 15/300

26/26 [==============================] - ETA: 0s - loss: 0.8948 - categorical\_accuracy: 0.9722

Epoch 15: val\_categorical\_accuracy did not improve from 0.48958

Epoch 15: val\_categorical\_accuracy did not improve from 0.48958

26/26 [==============================] - 21s 717ms/step - loss: 0.8948 - categorical\_accuracy: 0.9722 - val\_loss: 2.6138 - val\_categorical\_accuracy: 0.4896 - lr: 0.0995

Epoch 16: LearningRateScheduler setting learning rate to 0.0993844170297569.

Epoch 16/300

26/26 [==============================] - ETA: 0s - loss: 0.8632 - categorical\_accuracy: 0.9772

Epoch 16: val\_categorical\_accuracy did not improve from 0.48958

Epoch 16: val\_categorical\_accuracy did not improve from 0.48958

26/26 [==============================] - 22s 714ms/step - loss: 0.8632 - categorical\_accuracy: 0.9772 - val\_loss: 2.4542 - val\_categorical\_accuracy: 0.4896 - lr: 0.0994

Epoch 17: LearningRateScheduler setting learning rate to 0.09929980185352526.

Epoch 17/300

26/26 [==============================] - ETA: 0s - loss: 0.8289 - categorical\_accuracy: 0.9789

Epoch 17: val\_categorical\_accuracy did not improve from 0.48958

Epoch 17: val\_categorical\_accuracy did not improve from 0.48958

26/26 [==============================] - 22s 726ms/step - loss: 0.8289 - categorical\_accuracy: 0.9789 - val\_loss: 2.5476 - val\_categorical\_accuracy: 0.4896 - lr: 0.0993

Epoch 18: LearningRateScheduler setting learning rate to 0.0992097803984621.

Epoch 18/300

26/26 [==============================] - ETA: 0s - loss: 0.8053 - categorical\_accuracy: 0.9801

Epoch 18: val\_categorical\_accuracy did not improve from 0.48958

Epoch 18: val\_categorical\_accuracy did not improve from 0.48958

26/26 [==============================] - 22s 726ms/step - loss: 0.8053 - categorical\_accuracy: 0.9801 - val\_loss: 2.1725 - val\_categorical\_accuracy: 0.4896 - lr: 0.0992

Epoch 19: LearningRateScheduler setting learning rate to 0.09911436253643445.

Epoch 19/300

26/26 [==============================] - ETA: 0s - loss: 0.7865 - categorical\_accuracy: 0.9807

Epoch 19: val\_categorical\_accuracy did not improve from 0.48958

Epoch 19: val\_categorical\_accuracy did not improve from 0.48958

26/26 [==============================] - 22s 715ms/step - loss: 0.7865 - categorical\_accuracy: 0.9807 - val\_loss: 2.2708 - val\_categorical\_accuracy: 0.4661 - lr: 0.0991

Epoch 20: LearningRateScheduler setting learning rate to 0.0990135587310861.

Epoch 20/300

26/26 [==============================] - ETA: 0s - loss: 0.7626 - categorical\_accuracy: 0.9795

Epoch 20: val\_categorical\_accuracy improved from 0.48958 to 0.52604, saving model to ../results/model.h5

Epoch 20: val\_categorical\_accuracy improved from 0.48958 to 0.52604, saving model to ../results/model\_weights.h5

26/26 [==============================] - 24s 773ms/step - loss: 0.7626 - categorical\_accuracy: 0.9795 - val\_loss: 1.9261 - val\_categorical\_accuracy: 0.5260 - lr: 0.0990

Epoch 21: LearningRateScheduler setting learning rate to 0.09890738003669029.

Epoch 21/300

26/26 [==============================] - ETA: 0s - loss: 0.7436 - categorical\_accuracy: 0.9819

Epoch 21: val\_categorical\_accuracy did not improve from 0.52604

Epoch 21: val\_categorical\_accuracy did not improve from 0.52604

26/26 [==============================] - 22s 726ms/step - loss: 0.7436 - categorical\_accuracy: 0.9819 - val\_loss: 1.9806 - val\_categorical\_accuracy: 0.5052 - lr: 0.0989

Epoch 22: LearningRateScheduler setting learning rate to 0.09879583809693737.

Epoch 22/300

26/26 [==============================] - ETA: 0s - loss: 0.7183 - categorical\_accuracy: 0.9843

Epoch 22: val\_categorical\_accuracy improved from 0.52604 to 0.56250, saving model to ../results/model.h5

Epoch 22: val\_categorical\_accuracy improved from 0.52604 to 0.56250, saving model to ../results/model\_weights.h5

26/26 [==============================] - 23s 763ms/step - loss: 0.7183 - categorical\_accuracy: 0.9843 - val\_loss: 1.6947 - val\_categorical\_accuracy: 0.5625 - lr: 0.0988

Epoch 23: LearningRateScheduler setting learning rate to 0.09867894514365802.

Epoch 23/300

26/26 [==============================] - ETA: 0s - loss: 0.7039 - categorical\_accuracy: 0.9795

Epoch 23: val\_categorical\_accuracy did not improve from 0.56250

Epoch 23: val\_categorical\_accuracy did not improve from 0.56250

26/26 [==============================] - 21s 716ms/step - loss: 0.7039 - categorical\_accuracy: 0.9795 - val\_loss: 1.8887 - val\_categorical\_accuracy: 0.5052 - lr: 0.0987

Epoch 24: LearningRateScheduler setting learning rate to 0.09855671399548181.

Epoch 24/300

26/26 [==============================] - ETA: 0s - loss: 0.6794 - categorical\_accuracy: 0.9813

Epoch 24: val\_categorical\_accuracy improved from 0.56250 to 0.61719, saving model to ../results/model.h5

Epoch 24: val\_categorical\_accuracy improved from 0.56250 to 0.61719, saving model to ../results/model\_weights.h5

26/26 [==============================] - 23s 768ms/step - loss: 0.6794 - categorical\_accuracy: 0.9813 - val\_loss: 1.4363 - val\_categorical\_accuracy: 0.6172 - lr: 0.0986

Epoch 25: LearningRateScheduler setting learning rate to 0.09842915805643156.

Epoch 25/300

26/26 [==============================] - ETA: 0s - loss: 0.6603 - categorical\_accuracy: 0.9849

Epoch 25: val\_categorical\_accuracy improved from 0.61719 to 0.66927, saving model to ../results/model.h5

Epoch 25: val\_categorical\_accuracy improved from 0.61719 to 0.66927, saving model to ../results/model\_weights.h5

26/26 [==============================] - 23s 778ms/step - loss: 0.6603 - categorical\_accuracy: 0.9849 - val\_loss: 1.2929 - val\_categorical\_accuracy: 0.6693 - lr: 0.0984

Epoch 26: LearningRateScheduler setting learning rate to 0.09829629131445342.

Epoch 26/300

26/26 [==============================] - ETA: 0s - loss: 0.6531 - categorical\_accuracy: 0.9831

Epoch 26: val\_categorical\_accuracy did not improve from 0.66927

Epoch 26: val\_categorical\_accuracy did not improve from 0.66927

26/26 [==============================] - 21s 713ms/step - loss: 0.6531 - categorical\_accuracy: 0.9831 - val\_loss: 1.3424 - val\_categorical\_accuracy: 0.6224 - lr: 0.0983

Epoch 27: LearningRateScheduler setting learning rate to 0.09815812833988291.

Epoch 27/300

26/26 [==============================] - ETA: 0s - loss: 0.6336 - categorical\_accuracy: 0.9837

Epoch 27: val\_categorical\_accuracy did not improve from 0.66927

Epoch 27: val\_categorical\_accuracy did not improve from 0.66927

26/26 [==============================] - 22s 716ms/step - loss: 0.6336 - categorical\_accuracy: 0.9837 - val\_loss: 1.5289 - val\_categorical\_accuracy: 0.5495 - lr: 0.0982

Epoch 28: LearningRateScheduler setting learning rate to 0.09801468428384716.

Epoch 28/300

26/26 [==============================] - ETA: 0s - loss: 0.6196 - categorical\_accuracy: 0.9861

Epoch 28: val\_categorical\_accuracy did not improve from 0.66927

Epoch 28: val\_categorical\_accuracy did not improve from 0.66927

26/26 [==============================] - 21s 711ms/step - loss: 0.6196 - categorical\_accuracy: 0.9861 - val\_loss: 1.6651 - val\_categorical\_accuracy: 0.5130 - lr: 0.0980

Epoch 29: LearningRateScheduler setting learning rate to 0.09786597487660337.

Epoch 29/300

26/26 [==============================] - ETA: 0s - loss: 0.6073 - categorical\_accuracy: 0.9771

Epoch 29: val\_categorical\_accuracy did not improve from 0.66927

Epoch 29: val\_categorical\_accuracy did not improve from 0.66927

26/26 [==============================] - 21s 719ms/step - loss: 0.6073 - categorical\_accuracy: 0.9771 - val\_loss: 1.5175 - val\_categorical\_accuracy: 0.5573 - lr: 0.0979

Epoch 30: LearningRateScheduler setting learning rate to 0.09771201642581384.

Epoch 30/300

26/26 [==============================] - ETA: 0s - loss: 0.6092 - categorical\_accuracy: 0.9771

Epoch 30: val\_categorical\_accuracy improved from 0.66927 to 0.67188, saving model to ../results/model.h5

Epoch 30: val\_categorical\_accuracy improved from 0.66927 to 0.67188, saving model to ../results/model\_weights.h5

26/26 [==============================] - 23s 779ms/step - loss: 0.6092 - categorical\_accuracy: 0.9771 - val\_loss: 1.4435 - val\_categorical\_accuracy: 0.6719 - lr: 0.0977

Epoch 31: LearningRateScheduler setting learning rate to 0.09755282581475769.

Epoch 31/300

26/26 [==============================] - ETA: 0s - loss: 0.5933 - categorical\_accuracy: 0.9777

Epoch 31: val\_categorical\_accuracy did not improve from 0.67188

Epoch 31: val\_categorical\_accuracy did not improve from 0.67188

26/26 [==============================] - 22s 729ms/step - loss: 0.5933 - categorical\_accuracy: 0.9777 - val\_loss: 1.1207 - val\_categorical\_accuracy: 0.6693 - lr: 0.0976

Epoch 32: LearningRateScheduler setting learning rate to 0.0973884205004793.

Epoch 32/300

26/26 [==============================] - ETA: 0s - loss: 0.5838 - categorical\_accuracy: 0.9795

Epoch 32: val\_categorical\_accuracy did not improve from 0.67188

Epoch 32: val\_categorical\_accuracy did not improve from 0.67188

26/26 [==============================] - 21s 717ms/step - loss: 0.5838 - categorical\_accuracy: 0.9795 - val\_loss: 1.2623 - val\_categorical\_accuracy: 0.6302 - lr: 0.0974

Epoch 33: LearningRateScheduler setting learning rate to 0.09721881851187407.

Epoch 33/300

26/26 [==============================] - ETA: 0s - loss: 0.5573 - categorical\_accuracy: 0.9867

Epoch 33: val\_categorical\_accuracy improved from 0.67188 to 0.69792, saving model to ../results/model.h5

Epoch 33: val\_categorical\_accuracy improved from 0.67188 to 0.69792, saving model to ../results/model\_weights.h5

26/26 [==============================] - 25s 772ms/step - loss: 0.5573 - categorical\_accuracy: 0.9867 - val\_loss: 1.2107 - val\_categorical\_accuracy: 0.6979 - lr: 0.0972

Epoch 34: LearningRateScheduler setting learning rate to 0.09704403844771128.

Epoch 34/300

26/26 [==============================] - ETA: 0s - loss: 0.5516 - categorical\_accuracy: 0.9856

Epoch 34: val\_categorical\_accuracy did not improve from 0.69792

Epoch 34: val\_categorical\_accuracy did not improve from 0.69792

26/26 [==============================] - 21s 715ms/step - loss: 0.5516 - categorical\_accuracy: 0.9856 - val\_loss: 1.5372 - val\_categorical\_accuracy: 0.5651 - lr: 0.0970

Epoch 35: LearningRateScheduler setting learning rate to 0.09686409947459458.

Epoch 35/300

26/26 [==============================] - ETA: 0s - loss: 0.5433 - categorical\_accuracy: 0.9801

Epoch 35: val\_categorical\_accuracy did not improve from 0.69792

Epoch 35: val\_categorical\_accuracy did not improve from 0.69792

26/26 [==============================] - 22s 728ms/step - loss: 0.5433 - categorical\_accuracy: 0.9801 - val\_loss: 1.2383 - val\_categorical\_accuracy: 0.5781 - lr: 0.0969

Epoch 36: LearningRateScheduler setting learning rate to 0.09667902132486009.

Epoch 36/300

26/26 [==============================] - ETA: 0s - loss: 0.5312 - categorical\_accuracy: 0.9849

Epoch 36: val\_categorical\_accuracy did not improve from 0.69792

Epoch 36: val\_categorical\_accuracy did not improve from 0.69792

26/26 [==============================] - 21s 712ms/step - loss: 0.5312 - categorical\_accuracy: 0.9849 - val\_loss: 1.0983 - val\_categorical\_accuracy: 0.6849 - lr: 0.0967

Epoch 37: LearningRateScheduler setting learning rate to 0.09648882429441258.

Epoch 37/300

26/26 [==============================] - ETA: 0s - loss: 0.5214 - categorical\_accuracy: 0.9843

Epoch 37: val\_categorical\_accuracy did not improve from 0.69792

Epoch 37: val\_categorical\_accuracy did not improve from 0.69792

26/26 [==============================] - 22s 718ms/step - loss: 0.5214 - categorical\_accuracy: 0.9843 - val\_loss: 1.1577 - val\_categorical\_accuracy: 0.6849 - lr: 0.0965

Epoch 38: LearningRateScheduler setting learning rate to 0.09629352924049975.

Epoch 38/300

26/26 [==============================] - ETA: 0s - loss: 0.5153 - categorical\_accuracy: 0.9849

Epoch 38: val\_categorical\_accuracy did not improve from 0.69792

Epoch 38: val\_categorical\_accuracy did not improve from 0.69792

26/26 [==============================] - 22s 723ms/step - loss: 0.5153 - categorical\_accuracy: 0.9849 - val\_loss: 1.0925 - val\_categorical\_accuracy: 0.6328 - lr: 0.0963

Epoch 39: LearningRateScheduler setting learning rate to 0.09609315757942503.

Epoch 39/300

26/26 [==============================] - ETA: 0s - loss: 0.4997 - categorical\_accuracy: 0.9916

Epoch 39: val\_categorical\_accuracy did not improve from 0.69792

Epoch 39: val\_categorical\_accuracy did not improve from 0.69792

26/26 [==============================] - 23s 734ms/step - loss: 0.4997 - categorical\_accuracy: 0.9916 - val\_loss: 1.2294 - val\_categorical\_accuracy: 0.6849 - lr: 0.0961

Epoch 40: LearningRateScheduler setting learning rate to 0.09588773128419906.

Epoch 40/300

26/26 [==============================] - ETA: 0s - loss: 0.4938 - categorical\_accuracy: 0.9861

Epoch 40: val\_categorical\_accuracy did not improve from 0.69792

Epoch 40: val\_categorical\_accuracy did not improve from 0.69792

26/26 [==============================] - 22s 720ms/step - loss: 0.4938 - categorical\_accuracy: 0.9861 - val\_loss: 1.1447 - val\_categorical\_accuracy: 0.6771 - lr: 0.0959

Epoch 41: LearningRateScheduler setting learning rate to 0.09567727288213004.

Epoch 41/300

26/26 [==============================] - ETA: 0s - loss: 0.4968 - categorical\_accuracy: 0.9850

Epoch 41: val\_categorical\_accuracy did not improve from 0.69792

Epoch 41: val\_categorical\_accuracy did not improve from 0.69792

26/26 [==============================] - 22s 716ms/step - loss: 0.4968 - categorical\_accuracy: 0.9850 - val\_loss: 1.3504 - val\_categorical\_accuracy: 0.5938 - lr: 0.0957

Epoch 42: LearningRateScheduler setting learning rate to 0.09546180545235344.

Epoch 42/300

26/26 [==============================] - ETA: 0s - loss: 0.4994 - categorical\_accuracy: 0.9789

Epoch 42: val\_categorical\_accuracy did not improve from 0.69792

Epoch 42: val\_categorical\_accuracy did not improve from 0.69792

26/26 [==============================] - 21s 712ms/step - loss: 0.4994 - categorical\_accuracy: 0.9789 - val\_loss: 1.0769 - val\_categorical\_accuracy: 0.6745 - lr: 0.0955

Epoch 43: LearningRateScheduler setting learning rate to 0.09524135262330098.

Epoch 43/300

26/26 [==============================] - ETA: 0s - loss: 0.4696 - categorical\_accuracy: 0.9879

Epoch 43: val\_categorical\_accuracy did not improve from 0.69792

Epoch 43: val\_categorical\_accuracy did not improve from 0.69792

26/26 [==============================] - 22s 713ms/step - loss: 0.4696 - categorical\_accuracy: 0.9879 - val\_loss: 1.1359 - val\_categorical\_accuracy: 0.6224 - lr: 0.0952

Epoch 44: LearningRateScheduler setting learning rate to 0.09501593857010969.

Epoch 44/300

26/26 [==============================] - ETA: 0s - loss: 0.4703 - categorical\_accuracy: 0.9873

Epoch 44: val\_categorical\_accuracy did not improve from 0.69792

Epoch 44: val\_categorical\_accuracy did not improve from 0.69792

26/26 [==============================] - 21s 715ms/step - loss: 0.4703 - categorical\_accuracy: 0.9873 - val\_loss: 1.1230 - val\_categorical\_accuracy: 0.6198 - lr: 0.0950

Epoch 45: LearningRateScheduler setting learning rate to 0.09478558801197065.

Epoch 45/300

26/26 [==============================] - ETA: 0s - loss: 0.4679 - categorical\_accuracy: 0.9837

Epoch 45: val\_categorical\_accuracy did not improve from 0.69792

Epoch 45: val\_categorical\_accuracy did not improve from 0.69792

26/26 [==============================] - 23s 809ms/step - loss: 0.4679 - categorical\_accuracy: 0.9837 - val\_loss: 1.1029 - val\_categorical\_accuracy: 0.6771 - lr: 0.0948

Epoch 46: LearningRateScheduler setting learning rate to 0.09455032620941839.

Epoch 46/300

26/26 [==============================] - ETA: 0s - loss: 0.4685 - categorical\_accuracy: 0.9819

Epoch 46: val\_categorical\_accuracy did not improve from 0.69792

Epoch 46: val\_categorical\_accuracy did not improve from 0.69792

26/26 [==============================] - 21s 722ms/step - loss: 0.4685 - categorical\_accuracy: 0.9819 - val\_loss: 1.1624 - val\_categorical\_accuracy: 0.6198 - lr: 0.0946

Epoch 47: LearningRateScheduler setting learning rate to 0.09431017896156074.

Epoch 47/300

26/26 [==============================] - ETA: 0s - loss: 0.4538 - categorical\_accuracy: 0.9855

Epoch 47: val\_categorical\_accuracy did not improve from 0.69792

Epoch 47: val\_categorical\_accuracy did not improve from 0.69792

26/26 [==============================] - 22s 739ms/step - loss: 0.4538 - categorical\_accuracy: 0.9855 - val\_loss: 1.2630 - val\_categorical\_accuracy: 0.6120 - lr: 0.0943

Epoch 48: LearningRateScheduler setting learning rate to 0.0940651726032496.

Epoch 48/300

26/26 [==============================] - ETA: 0s - loss: 0.4441 - categorical\_accuracy: 0.9891

Epoch 48: val\_categorical\_accuracy did not improve from 0.69792

Epoch 48: val\_categorical\_accuracy did not improve from 0.69792

26/26 [==============================] - 21s 723ms/step - loss: 0.4441 - categorical\_accuracy: 0.9891 - val\_loss: 1.0265 - val\_categorical\_accuracy: 0.6771 - lr: 0.0941

Epoch 49: LearningRateScheduler setting learning rate to 0.09381533400219318.

Epoch 49/300

26/26 [==============================] - ETA: 0s - loss: 0.4440 - categorical\_accuracy: 0.9831

Epoch 49: val\_categorical\_accuracy did not improve from 0.69792

Epoch 49: val\_categorical\_accuracy did not improve from 0.69792

26/26 [==============================] - 22s 707ms/step - loss: 0.4440 - categorical\_accuracy: 0.9831 - val\_loss: 1.2024 - val\_categorical\_accuracy: 0.6693 - lr: 0.0938

Epoch 50: LearningRateScheduler setting learning rate to 0.09356069055600948.

Epoch 50/300

26/26 [==============================] - ETA: 0s - loss: 0.4408 - categorical\_accuracy: 0.9849

Epoch 50: val\_categorical\_accuracy did not improve from 0.69792

Epoch 50: val\_categorical\_accuracy did not improve from 0.69792

26/26 [==============================] - 21s 714ms/step - loss: 0.4408 - categorical\_accuracy: 0.9849 - val\_loss: 1.3323 - val\_categorical\_accuracy: 0.5990 - lr: 0.0936

Epoch 51: LearningRateScheduler setting learning rate to 0.09330127018922194.

Epoch 51/300

26/26 [==============================] - ETA: 0s - loss: 0.4287 - categorical\_accuracy: 0.9885

Epoch 51: val\_categorical\_accuracy did not improve from 0.69792

Epoch 51: val\_categorical\_accuracy did not improve from 0.69792

26/26 [==============================] - 22s 717ms/step - loss: 0.4287 - categorical\_accuracy: 0.9885 - val\_loss: 1.1796 - val\_categorical\_accuracy: 0.6250 - lr: 0.0933

Epoch 52: LearningRateScheduler setting learning rate to 0.09303710135019719.

Epoch 52/300

26/26 [==============================] - ETA: 0s - loss: 0.4329 - categorical\_accuracy: 0.9861

Epoch 52: val\_categorical\_accuracy did not improve from 0.69792

Epoch 52: val\_categorical\_accuracy did not improve from 0.69792

26/26 [==============================] - 23s 724ms/step - loss: 0.4329 - categorical\_accuracy: 0.9861 - val\_loss: 1.1683 - val\_categorical\_accuracy: 0.6198 - lr: 0.0930

Epoch 53: LearningRateScheduler setting learning rate to 0.09276821300802535.

Epoch 53/300

26/26 [==============================] - ETA: 0s - loss: 0.4330 - categorical\_accuracy: 0.9831

Epoch 53: val\_categorical\_accuracy did not improve from 0.69792

Epoch 53: val\_categorical\_accuracy did not improve from 0.69792

26/26 [==============================] - 21s 708ms/step - loss: 0.4330 - categorical\_accuracy: 0.9831 - val\_loss: 1.0573 - val\_categorical\_accuracy: 0.6016 - lr: 0.0928

Epoch 54: LearningRateScheduler setting learning rate to 0.09249463464934321.

Epoch 54/300

26/26 [==============================] - ETA: 0s - loss: 0.4349 - categorical\_accuracy: 0.9843

Epoch 54: val\_categorical\_accuracy did not improve from 0.69792

Epoch 54: val\_categorical\_accuracy did not improve from 0.69792

26/26 [==============================] - 22s 717ms/step - loss: 0.4349 - categorical\_accuracy: 0.9843 - val\_loss: 1.0375 - val\_categorical\_accuracy: 0.6589 - lr: 0.0925

Epoch 55: LearningRateScheduler setting learning rate to 0.09221639627510075.

Epoch 55/300

26/26 [==============================] - ETA: 0s - loss: 0.4145 - categorical\_accuracy: 0.9909

Epoch 55: val\_categorical\_accuracy did not improve from 0.69792

Epoch 55: val\_categorical\_accuracy did not improve from 0.69792

26/26 [==============================] - 22s 724ms/step - loss: 0.4145 - categorical\_accuracy: 0.9909 - val\_loss: 0.9442 - val\_categorical\_accuracy: 0.6693 - lr: 0.0922

Epoch 56: LearningRateScheduler setting learning rate to 0.0919335283972712.

Epoch 56/300

26/26 [==============================] - ETA: 0s - loss: 0.4123 - categorical\_accuracy: 0.9897

Epoch 56: val\_categorical\_accuracy did not improve from 0.69792

Epoch 56: val\_categorical\_accuracy did not improve from 0.69792

26/26 [==============================] - 21s 702ms/step - loss: 0.4123 - categorical\_accuracy: 0.9897 - val\_loss: 1.0091 - val\_categorical\_accuracy: 0.6198 - lr: 0.0919

Epoch 57: LearningRateScheduler setting learning rate to 0.09164606203550497.

Epoch 57/300

26/26 [==============================] - ETA: 0s - loss: 0.4117 - categorical\_accuracy: 0.9885

Epoch 57: val\_categorical\_accuracy did not improve from 0.69792

Epoch 57: val\_categorical\_accuracy did not improve from 0.69792

26/26 [==============================] - 22s 714ms/step - loss: 0.4117 - categorical\_accuracy: 0.9885 - val\_loss: 1.0714 - val\_categorical\_accuracy: 0.6641 - lr: 0.0916

Epoch 58: LearningRateScheduler setting learning rate to 0.0913540287137281.

Epoch 58/300

26/26 [==============================] - ETA: 0s - loss: 0.4186 - categorical\_accuracy: 0.9795

Epoch 58: val\_categorical\_accuracy did not improve from 0.69792

Epoch 58: val\_categorical\_accuracy did not improve from 0.69792

26/26 [==============================] - 21s 702ms/step - loss: 0.4186 - categorical\_accuracy: 0.9795 - val\_loss: 1.3447 - val\_categorical\_accuracy: 0.6224 - lr: 0.0914

Epoch 59: LearningRateScheduler setting learning rate to 0.09105746045668521.

Epoch 59/300

26/26 [==============================] - ETA: 0s - loss: 0.4040 - categorical\_accuracy: 0.9879

Epoch 59: val\_categorical\_accuracy did not improve from 0.69792

Epoch 59: val\_categorical\_accuracy did not improve from 0.69792

26/26 [==============================] - 24s 728ms/step - loss: 0.4040 - categorical\_accuracy: 0.9879 - val\_loss: 1.0525 - val\_categorical\_accuracy: 0.6693 - lr: 0.0911

Epoch 60: LearningRateScheduler setting learning rate to 0.09075638978642771.

Epoch 60/300

26/26 [==============================] - ETA: 0s - loss: 0.4079 - categorical\_accuracy: 0.9856

Epoch 60: val\_categorical\_accuracy did not improve from 0.69792

Epoch 60: val\_categorical\_accuracy did not improve from 0.69792

26/26 [==============================] - 22s 723ms/step - loss: 0.4079 - categorical\_accuracy: 0.9856 - val\_loss: 1.1954 - val\_categorical\_accuracy: 0.6172 - lr: 0.0908

Epoch 61: LearningRateScheduler setting learning rate to 0.09045084971874738.

Epoch 61/300

26/26 [==============================] - ETA: 0s - loss: 0.3988 - categorical\_accuracy: 0.9855

Epoch 61: val\_categorical\_accuracy did not improve from 0.69792

Epoch 61: val\_categorical\_accuracy did not improve from 0.69792

26/26 [==============================] - 22s 727ms/step - loss: 0.3988 - categorical\_accuracy: 0.9855 - val\_loss: 1.0647 - val\_categorical\_accuracy: 0.6771 - lr: 0.0905

Epoch 62: LearningRateScheduler setting learning rate to 0.09014087375955573.

Epoch 62/300

26/26 [==============================] - ETA: 0s - loss: 0.4119 - categorical\_accuracy: 0.9795

Epoch 62: val\_categorical\_accuracy improved from 0.69792 to 0.71875, saving model to ../results/model.h5

Epoch 62: val\_categorical\_accuracy improved from 0.69792 to 0.71875, saving model to ../results/model\_weights.h5

26/26 [==============================] - 23s 773ms/step - loss: 0.4119 - categorical\_accuracy: 0.9795 - val\_loss: 1.0052 - val\_categorical\_accuracy: 0.7188 - lr: 0.0901

Epoch 63: LearningRateScheduler setting learning rate to 0.08982649590120982.

Epoch 63/300

26/26 [==============================] - ETA: 0s - loss: 0.3977 - categorical\_accuracy: 0.9885

Epoch 63: val\_categorical\_accuracy did not improve from 0.71875

Epoch 63: val\_categorical\_accuracy did not improve from 0.71875

26/26 [==============================] - 22s 737ms/step - loss: 0.3977 - categorical\_accuracy: 0.9885 - val\_loss: 1.1105 - val\_categorical\_accuracy: 0.6068 - lr: 0.0898

Epoch 64: LearningRateScheduler setting learning rate to 0.08950775061878452.

Epoch 64/300

26/26 [==============================] - ETA: 0s - loss: 0.3882 - categorical\_accuracy: 0.9916

Epoch 64: val\_categorical\_accuracy did not improve from 0.71875

Epoch 64: val\_categorical\_accuracy did not improve from 0.71875

26/26 [==============================] - 22s 725ms/step - loss: 0.3882 - categorical\_accuracy: 0.9916 - val\_loss: 1.0217 - val\_categorical\_accuracy: 0.7057 - lr: 0.0895

Epoch 65: LearningRateScheduler setting learning rate to 0.089184672866292.

Epoch 65/300

26/26 [==============================] - ETA: 0s - loss: 0.4010 - categorical\_accuracy: 0.9843

Epoch 65: val\_categorical\_accuracy did not improve from 0.71875

Epoch 65: val\_categorical\_accuracy did not improve from 0.71875

26/26 [==============================] - 22s 718ms/step - loss: 0.4010 - categorical\_accuracy: 0.9843 - val\_loss: 1.0424 - val\_categorical\_accuracy: 0.6406 - lr: 0.0892

Epoch 66: LearningRateScheduler setting learning rate to 0.08885729807284855.

Epoch 66/300

26/26 [==============================] - ETA: 0s - loss: 0.3971 - categorical\_accuracy: 0.9867

Epoch 66: val\_categorical\_accuracy improved from 0.71875 to 0.72135, saving model to ../results/model.h5

Epoch 66: val\_categorical\_accuracy improved from 0.71875 to 0.72135, saving model to ../results/model\_weights.h5

26/26 [==============================] - 23s 769ms/step - loss: 0.3971 - categorical\_accuracy: 0.9867 - val\_loss: 0.8922 - val\_categorical\_accuracy: 0.7214 - lr: 0.0889

Epoch 67: LearningRateScheduler setting learning rate to 0.08852566213878947.

Epoch 67/300

26/26 [==============================] - ETA: 0s - loss: 0.3852 - categorical\_accuracy: 0.9909

Epoch 67: val\_categorical\_accuracy did not improve from 0.72135

Epoch 67: val\_categorical\_accuracy did not improve from 0.72135

26/26 [==============================] - 21s 707ms/step - loss: 0.3852 - categorical\_accuracy: 0.9909 - val\_loss: 0.9014 - val\_categorical\_accuracy: 0.6510 - lr: 0.0885

Epoch 68: LearningRateScheduler setting learning rate to 0.08818980143173212.

Epoch 68/300

26/26 [==============================] - ETA: 0s - loss: 0.3835 - categorical\_accuracy: 0.9903

Epoch 68: val\_categorical\_accuracy did not improve from 0.72135

Epoch 68: val\_categorical\_accuracy did not improve from 0.72135

26/26 [==============================] - 21s 714ms/step - loss: 0.3835 - categorical\_accuracy: 0.9903 - val\_loss: 0.9401 - val\_categorical\_accuracy: 0.6693 - lr: 0.0882

Epoch 69: LearningRateScheduler setting learning rate to 0.08784975278258783.

Epoch 69/300

26/26 [==============================] - ETA: 0s - loss: 0.3900 - categorical\_accuracy: 0.9879

Epoch 69: val\_categorical\_accuracy did not improve from 0.72135

Epoch 69: val\_categorical\_accuracy did not improve from 0.72135

26/26 [==============================] - 22s 735ms/step - loss: 0.3900 - categorical\_accuracy: 0.9879 - val\_loss: 1.0104 - val\_categorical\_accuracy: 0.6667 - lr: 0.0878

Epoch 70: LearningRateScheduler setting learning rate to 0.08750555348152299.

Epoch 70/300

26/26 [==============================] - ETA: 0s - loss: 0.3862 - categorical\_accuracy: 0.9886

Epoch 70: val\_categorical\_accuracy did not improve from 0.72135

Epoch 70: val\_categorical\_accuracy did not improve from 0.72135

26/26 [==============================] - 22s 729ms/step - loss: 0.3862 - categorical\_accuracy: 0.9886 - val\_loss: 0.9639 - val\_categorical\_accuracy: 0.6901 - lr: 0.0875

Epoch 71: LearningRateScheduler setting learning rate to 0.08715724127386973.

Epoch 71/300

26/26 [==============================] - ETA: 0s - loss: 0.3774 - categorical\_accuracy: 0.9922

Epoch 71: val\_categorical\_accuracy did not improve from 0.72135

Epoch 71: val\_categorical\_accuracy did not improve from 0.72135

26/26 [==============================] - 21s 721ms/step - loss: 0.3774 - categorical\_accuracy: 0.9922 - val\_loss: 1.0932 - val\_categorical\_accuracy: 0.5469 - lr: 0.0872

Epoch 72: LearningRateScheduler setting learning rate to 0.08680485435598673.

Epoch 72/300

26/26 [==============================] - ETA: 0s - loss: 0.3861 - categorical\_accuracy: 0.9849

Epoch 72: val\_categorical\_accuracy did not improve from 0.72135

Epoch 72: val\_categorical\_accuracy did not improve from 0.72135

26/26 [==============================] - 22s 723ms/step - loss: 0.3861 - categorical\_accuracy: 0.9849 - val\_loss: 1.0237 - val\_categorical\_accuracy: 0.6198 - lr: 0.0868

Epoch 73: LearningRateScheduler setting learning rate to 0.08644843137107058.

Epoch 73/300

26/26 [==============================] - ETA: 0s - loss: 0.3775 - categorical\_accuracy: 0.9867

Epoch 73: val\_categorical\_accuracy did not improve from 0.72135

Epoch 73: val\_categorical\_accuracy did not improve from 0.72135

26/26 [==============================] - 22s 719ms/step - loss: 0.3775 - categorical\_accuracy: 0.9867 - val\_loss: 0.8205 - val\_categorical\_accuracy: 0.7005 - lr: 0.0864

Epoch 74: LearningRateScheduler setting learning rate to 0.08608801140491812.

Epoch 74/300

26/26 [==============================] - ETA: 0s - loss: 0.3850 - categorical\_accuracy: 0.9849

Epoch 74: val\_categorical\_accuracy did not improve from 0.72135

Epoch 74: val\_categorical\_accuracy did not improve from 0.72135

26/26 [==============================] - 22s 726ms/step - loss: 0.3850 - categorical\_accuracy: 0.9849 - val\_loss: 1.0868 - val\_categorical\_accuracy: 0.5677 - lr: 0.0861

Epoch 75: LearningRateScheduler setting learning rate to 0.08572363398164018.

Epoch 75/300

26/26 [==============================] - ETA: 0s - loss: 0.3821 - categorical\_accuracy: 0.9849

Epoch 75: val\_categorical\_accuracy did not improve from 0.72135

Epoch 75: val\_categorical\_accuracy did not improve from 0.72135

26/26 [==============================] - 21s 709ms/step - loss: 0.3821 - categorical\_accuracy: 0.9849 - val\_loss: 0.9518 - val\_categorical\_accuracy: 0.6589 - lr: 0.0857

Epoch 76: LearningRateScheduler setting learning rate to 0.08535533905932738.

Epoch 76/300

26/26 [==============================] - ETA: 0s - loss: 0.3849 - categorical\_accuracy: 0.9831

Epoch 76: val\_categorical\_accuracy did not improve from 0.72135

Epoch 76: val\_categorical\_accuracy did not improve from 0.72135

26/26 [==============================] - 21s 715ms/step - loss: 0.3849 - categorical\_accuracy: 0.9831 - val\_loss: 1.2386 - val\_categorical\_accuracy: 0.6536 - lr: 0.0854

Epoch 77: LearningRateScheduler setting learning rate to 0.08498316702566829.

Epoch 77/300

26/26 [==============================] - ETA: 0s - loss: 0.3712 - categorical\_accuracy: 0.9909

Epoch 77: val\_categorical\_accuracy did not improve from 0.72135

Epoch 77: val\_categorical\_accuracy did not improve from 0.72135

26/26 [==============================] - 21s 716ms/step - loss: 0.3712 - categorical\_accuracy: 0.9909 - val\_loss: 0.7908 - val\_categorical\_accuracy: 0.7214 - lr: 0.0850

Epoch 78: LearningRateScheduler setting learning rate to 0.08460715869352034.

Epoch 78/300

26/26 [==============================] - ETA: 0s - loss: 0.3727 - categorical\_accuracy: 0.9879

Epoch 78: val\_categorical\_accuracy did not improve from 0.72135

Epoch 78: val\_categorical\_accuracy did not improve from 0.72135

26/26 [==============================] - 21s 704ms/step - loss: 0.3727 - categorical\_accuracy: 0.9879 - val\_loss: 1.0596 - val\_categorical\_accuracy: 0.6667 - lr: 0.0846

Epoch 79: LearningRateScheduler setting learning rate to 0.08422735529643444.

Epoch 79/300

26/26 [==============================] - ETA: 0s - loss: 0.3783 - categorical\_accuracy: 0.9867

Epoch 79: val\_categorical\_accuracy did not improve from 0.72135

Epoch 79: val\_categorical\_accuracy did not improve from 0.72135

26/26 [==============================] - 21s 701ms/step - loss: 0.3783 - categorical\_accuracy: 0.9867 - val\_loss: 0.9960 - val\_categorical\_accuracy: 0.6615 - lr: 0.0842

Epoch 80: LearningRateScheduler setting learning rate to 0.08384379848413304.

Epoch 80/300

26/26 [==============================] - ETA: 0s - loss: 0.3860 - categorical\_accuracy: 0.9819

Epoch 80: val\_categorical\_accuracy did not improve from 0.72135

Epoch 80: val\_categorical\_accuracy did not improve from 0.72135

26/26 [==============================] - 22s 702ms/step - loss: 0.3860 - categorical\_accuracy: 0.9819 - val\_loss: 1.0102 - val\_categorical\_accuracy: 0.6224 - lr: 0.0838

Epoch 81: LearningRateScheduler setting learning rate to 0.08345653031794292.

Epoch 81/300

26/26 [==============================] - ETA: 0s - loss: 0.3758 - categorical\_accuracy: 0.9873

Epoch 81: val\_categorical\_accuracy did not improve from 0.72135

Epoch 81: val\_categorical\_accuracy did not improve from 0.72135

26/26 [==============================] - 21s 704ms/step - loss: 0.3758 - categorical\_accuracy: 0.9873 - val\_loss: 1.2985 - val\_categorical\_accuracy: 0.5052 - lr: 0.0835

Epoch 82: LearningRateScheduler setting learning rate to 0.0830655932661826.

Epoch 82/300

26/26 [==============================] - ETA: 0s - loss: 0.3840 - categorical\_accuracy: 0.9825

Epoch 82: val\_categorical\_accuracy did not improve from 0.72135

Epoch 82: val\_categorical\_accuracy did not improve from 0.72135

26/26 [==============================] - 23s 744ms/step - loss: 0.3840 - categorical\_accuracy: 0.9825 - val\_loss: 1.1045 - val\_categorical\_accuracy: 0.5990 - lr: 0.0831

Epoch 83: LearningRateScheduler setting learning rate to 0.08267103019950528.

Epoch 83/300

26/26 [==============================] - ETA: 0s - loss: 0.3762 - categorical\_accuracy: 0.9843

Epoch 83: val\_categorical\_accuracy did not improve from 0.72135

Epoch 83: val\_categorical\_accuracy did not improve from 0.72135

26/26 [==============================] - 22s 732ms/step - loss: 0.3762 - categorical\_accuracy: 0.9843 - val\_loss: 1.2197 - val\_categorical\_accuracy: 0.5156 - lr: 0.0827

Epoch 84: LearningRateScheduler setting learning rate to 0.08227288438619754.

Epoch 84/300

26/26 [==============================] - ETA: 0s - loss: 0.3682 - categorical\_accuracy: 0.9868

Epoch 84: val\_categorical\_accuracy did not improve from 0.72135

Epoch 84: val\_categorical\_accuracy did not improve from 0.72135

26/26 [==============================] - 21s 704ms/step - loss: 0.3682 - categorical\_accuracy: 0.9868 - val\_loss: 0.9058 - val\_categorical\_accuracy: 0.6510 - lr: 0.0823

Epoch 85: LearningRateScheduler setting learning rate to 0.08187119948743449.

Epoch 85/300

26/26 [==============================] - ETA: 0s - loss: 0.3730 - categorical\_accuracy: 0.9861

Epoch 85: val\_categorical\_accuracy did not improve from 0.72135

Epoch 85: val\_categorical\_accuracy did not improve from 0.72135

26/26 [==============================] - 21s 714ms/step - loss: 0.3730 - categorical\_accuracy: 0.9861 - val\_loss: 0.9522 - val\_categorical\_accuracy: 0.5911 - lr: 0.0819

Epoch 86: LearningRateScheduler setting learning rate to 0.08146601955249189.

Epoch 86/300

26/26 [==============================] - ETA: 0s - loss: 0.3794 - categorical\_accuracy: 0.9813

Epoch 86: val\_categorical\_accuracy did not improve from 0.72135

Epoch 86: val\_categorical\_accuracy did not improve from 0.72135

26/26 [==============================] - 22s 712ms/step - loss: 0.3794 - categorical\_accuracy: 0.9813 - val\_loss: 1.2446 - val\_categorical\_accuracy: 0.6120 - lr: 0.0815

Epoch 87: LearningRateScheduler setting learning rate to 0.08105738901391553.

Epoch 87/300

26/26 [==============================] - ETA: 0s - loss: 0.3697 - categorical\_accuracy: 0.9903

Epoch 87: val\_categorical\_accuracy did not improve from 0.72135

Epoch 87: val\_categorical\_accuracy did not improve from 0.72135

26/26 [==============================] - 21s 717ms/step - loss: 0.3697 - categorical\_accuracy: 0.9903 - val\_loss: 1.0487 - val\_categorical\_accuracy: 0.6979 - lr: 0.0811

Epoch 88: LearningRateScheduler setting learning rate to 0.08064535268264883.

Epoch 88/300

26/26 [==============================] - ETA: 0s - loss: 0.3686 - categorical\_accuracy: 0.9891

Epoch 88: val\_categorical\_accuracy did not improve from 0.72135

Epoch 88: val\_categorical\_accuracy did not improve from 0.72135

26/26 [==============================] - 21s 723ms/step - loss: 0.3686 - categorical\_accuracy: 0.9891 - val\_loss: 1.0690 - val\_categorical\_accuracy: 0.6198 - lr: 0.0806

Epoch 89: LearningRateScheduler setting learning rate to 0.08022995574311875.

Epoch 89/300

26/26 [==============================] - ETA: 0s - loss: 0.3721 - categorical\_accuracy: 0.9807

Epoch 89: val\_categorical\_accuracy did not improve from 0.72135

Epoch 89: val\_categorical\_accuracy did not improve from 0.72135

26/26 [==============================] - 21s 725ms/step - loss: 0.3721 - categorical\_accuracy: 0.9807 - val\_loss: 1.5765 - val\_categorical\_accuracy: 0.5130 - lr: 0.0802

Epoch 90: LearningRateScheduler setting learning rate to 0.0798112437482808.

Epoch 90/300

26/26 [==============================] - ETA: 0s - loss: 0.3653 - categorical\_accuracy: 0.9879

Epoch 90: val\_categorical\_accuracy did not improve from 0.72135

Epoch 90: val\_categorical\_accuracy did not improve from 0.72135

26/26 [==============================] - 22s 723ms/step - loss: 0.3653 - categorical\_accuracy: 0.9879 - val\_loss: 0.9742 - val\_categorical\_accuracy: 0.6667 - lr: 0.0798

Epoch 91: LearningRateScheduler setting learning rate to 0.07938926261462366.

Epoch 91/300

26/26 [==============================] - ETA: 0s - loss: 0.3628 - categorical\_accuracy: 0.9922

Epoch 91: val\_categorical\_accuracy did not improve from 0.72135

Epoch 91: val\_categorical\_accuracy did not improve from 0.72135

26/26 [==============================] - 21s 719ms/step - loss: 0.3628 - categorical\_accuracy: 0.9922 - val\_loss: 1.0611 - val\_categorical\_accuracy: 0.6510 - lr: 0.0794

Epoch 92: LearningRateScheduler setting learning rate to 0.07896405861713394.

Epoch 92/300

26/26 [==============================] - ETA: 0s - loss: 0.3664 - categorical\_accuracy: 0.9867

Epoch 92: val\_categorical\_accuracy did not improve from 0.72135

Epoch 92: val\_categorical\_accuracy did not improve from 0.72135

26/26 [==============================] - 21s 721ms/step - loss: 0.3664 - categorical\_accuracy: 0.9867 - val\_loss: 0.9017 - val\_categorical\_accuracy: 0.6823 - lr: 0.0790

Epoch 93: LearningRateScheduler setting learning rate to 0.0785356783842216.

Epoch 93/300

26/26 [==============================] - ETA: 0s - loss: 0.3645 - categorical\_accuracy: 0.9879

Epoch 93: val\_categorical\_accuracy did not improve from 0.72135

Epoch 93: val\_categorical\_accuracy did not improve from 0.72135

26/26 [==============================] - 23s 732ms/step - loss: 0.3645 - categorical\_accuracy: 0.9879 - val\_loss: 1.0724 - val\_categorical\_accuracy: 0.6797 - lr: 0.0785

Epoch 94: LearningRateScheduler setting learning rate to 0.07810416889260655.

Epoch 94/300

26/26 [==============================] - ETA: 0s - loss: 0.3684 - categorical\_accuracy: 0.9837

Epoch 94: val\_categorical\_accuracy improved from 0.72135 to 0.77604, saving model to ../results/model.h5

Epoch 94: val\_categorical\_accuracy improved from 0.72135 to 0.77604, saving model to ../results/model\_weights.h5

26/26 [==============================] - 24s 773ms/step - loss: 0.3684 - categorical\_accuracy: 0.9837 - val\_loss: 0.8194 - val\_categorical\_accuracy: 0.7760 - lr: 0.0781

Epoch 95: LearningRateScheduler setting learning rate to 0.07766957746216721.

Epoch 95/300

26/26 [==============================] - ETA: 0s - loss: 0.3712 - categorical\_accuracy: 0.9837

Epoch 95: val\_categorical\_accuracy did not improve from 0.77604

Epoch 95: val\_categorical\_accuracy did not improve from 0.77604

26/26 [==============================] - 21s 716ms/step - loss: 0.3712 - categorical\_accuracy: 0.9837 - val\_loss: 0.8837 - val\_categorical\_accuracy: 0.6615 - lr: 0.0777

Epoch 96: LearningRateScheduler setting learning rate to 0.07723195175075136.

Epoch 96/300

26/26 [==============================] - ETA: 0s - loss: 0.3650 - categorical\_accuracy: 0.9819

Epoch 96: val\_categorical\_accuracy did not improve from 0.77604

Epoch 96: val\_categorical\_accuracy did not improve from 0.77604

26/26 [==============================] - 22s 724ms/step - loss: 0.3650 - categorical\_accuracy: 0.9819 - val\_loss: 0.9269 - val\_categorical\_accuracy: 0.6667 - lr: 0.0772

Epoch 97: LearningRateScheduler setting learning rate to 0.07679133974894983.

Epoch 97/300

26/26 [==============================] - ETA: 0s - loss: 0.3594 - categorical\_accuracy: 0.9867

Epoch 97: val\_categorical\_accuracy did not improve from 0.77604

Epoch 97: val\_categorical\_accuracy did not improve from 0.77604

26/26 [==============================] - 22s 729ms/step - loss: 0.3594 - categorical\_accuracy: 0.9867 - val\_loss: 1.0976 - val\_categorical\_accuracy: 0.6224 - lr: 0.0768

Epoch 98: LearningRateScheduler setting learning rate to 0.07634778977483389.

Epoch 98/300

26/26 [==============================] - ETA: 0s - loss: 0.3578 - categorical\_accuracy: 0.9879

Epoch 98: val\_categorical\_accuracy did not improve from 0.77604

Epoch 98: val\_categorical\_accuracy did not improve from 0.77604

26/26 [==============================] - 22s 718ms/step - loss: 0.3578 - categorical\_accuracy: 0.9879 - val\_loss: 0.9001 - val\_categorical\_accuracy: 0.7109 - lr: 0.0763

Epoch 99: LearningRateScheduler setting learning rate to 0.07590135046865652.

Epoch 99/300

26/26 [==============================] - ETA: 0s - loss: 0.3728 - categorical\_accuracy: 0.9825

Epoch 99: val\_categorical\_accuracy did not improve from 0.77604

Epoch 99: val\_categorical\_accuracy did not improve from 0.77604

26/26 [==============================] - 23s 718ms/step - loss: 0.3728 - categorical\_accuracy: 0.9825 - val\_loss: 0.8989 - val\_categorical\_accuracy: 0.7188 - lr: 0.0759

Epoch 100: LearningRateScheduler setting learning rate to 0.07545207078751857.

Epoch 100/300

26/26 [==============================] - ETA: 0s - loss: 0.3745 - categorical\_accuracy: 0.9831

Epoch 100: val\_categorical\_accuracy did not improve from 0.77604

Epoch 100: val\_categorical\_accuracy did not improve from 0.77604

26/26 [==============================] - 22s 730ms/step - loss: 0.3745 - categorical\_accuracy: 0.9831 - val\_loss: 0.8453 - val\_categorical\_accuracy: 0.7396 - lr: 0.0755

Epoch 101: LearningRateScheduler setting learning rate to 0.07500000000000001.

Epoch 101/300

26/26 [==============================] - ETA: 0s - loss: 0.3577 - categorical\_accuracy: 0.9922

Epoch 101: val\_categorical\_accuracy did not improve from 0.77604

Epoch 101: val\_categorical\_accuracy did not improve from 0.77604

26/26 [==============================] - 21s 709ms/step - loss: 0.3577 - categorical\_accuracy: 0.9922 - val\_loss: 0.7434 - val\_categorical\_accuracy: 0.7760 - lr: 0.0750

Epoch 102: LearningRateScheduler setting learning rate to 0.07454518768075705.

Epoch 102/300

26/26 [==============================] - ETA: 0s - loss: 0.3524 - categorical\_accuracy: 0.9946

Epoch 102: val\_categorical\_accuracy did not improve from 0.77604

Epoch 102: val\_categorical\_accuracy did not improve from 0.77604

26/26 [==============================] - 21s 715ms/step - loss: 0.3524 - categorical\_accuracy: 0.9946 - val\_loss: 0.7918 - val\_categorical\_accuracy: 0.7083 - lr: 0.0745

Epoch 103: LearningRateScheduler setting learning rate to 0.07408768370508577.

Epoch 103/300

26/26 [==============================] - ETA: 0s - loss: 0.3483 - categorical\_accuracy: 0.9934

Epoch 103: val\_categorical\_accuracy did not improve from 0.77604

Epoch 103: val\_categorical\_accuracy did not improve from 0.77604

26/26 [==============================] - 22s 730ms/step - loss: 0.3483 - categorical\_accuracy: 0.9934 - val\_loss: 0.8448 - val\_categorical\_accuracy: 0.7188 - lr: 0.0741

Epoch 104: LearningRateScheduler setting learning rate to 0.07362753824345271.

Epoch 104/300

26/26 [==============================] - ETA: 0s - loss: 0.3493 - categorical\_accuracy: 0.9928

Epoch 104: val\_categorical\_accuracy did not improve from 0.77604

Epoch 104: val\_categorical\_accuracy did not improve from 0.77604

26/26 [==============================] - 22s 745ms/step - loss: 0.3493 - categorical\_accuracy: 0.9928 - val\_loss: 0.9151 - val\_categorical\_accuracy: 0.6745 - lr: 0.0736

Epoch 105: LearningRateScheduler setting learning rate to 0.07316480175599309.

Epoch 105/300

26/26 [==============================] - ETA: 0s - loss: 0.3583 - categorical\_accuracy: 0.9861

Epoch 105: val\_categorical\_accuracy did not improve from 0.77604

Epoch 105: val\_categorical\_accuracy did not improve from 0.77604

26/26 [==============================] - 22s 718ms/step - loss: 0.3583 - categorical\_accuracy: 0.9861 - val\_loss: 0.8569 - val\_categorical\_accuracy: 0.6406 - lr: 0.0732

Epoch 106: LearningRateScheduler setting learning rate to 0.07269952498697733.

Epoch 106/300

26/26 [==============================] - ETA: 0s - loss: 0.3593 - categorical\_accuracy: 0.9867

Epoch 106: val\_categorical\_accuracy did not improve from 0.77604

Epoch 106: val\_categorical\_accuracy did not improve from 0.77604

26/26 [==============================] - 22s 727ms/step - loss: 0.3593 - categorical\_accuracy: 0.9867 - val\_loss: 1.1459 - val\_categorical\_accuracy: 0.5703 - lr: 0.0727

Epoch 107: LearningRateScheduler setting learning rate to 0.07223175895924637.

Epoch 107/300

26/26 [==============================] - ETA: 0s - loss: 0.3542 - categorical\_accuracy: 0.9885

Epoch 107: val\_categorical\_accuracy did not improve from 0.77604

Epoch 107: val\_categorical\_accuracy did not improve from 0.77604

26/26 [==============================] - 21s 724ms/step - loss: 0.3542 - categorical\_accuracy: 0.9885 - val\_loss: 0.7822 - val\_categorical\_accuracy: 0.7188 - lr: 0.0722

Epoch 108: LearningRateScheduler setting learning rate to 0.07176155496861639.

Epoch 108/300

26/26 [==============================] - ETA: 0s - loss: 0.3516 - categorical\_accuracy: 0.9916

Epoch 108: val\_categorical\_accuracy did not improve from 0.77604

Epoch 108: val\_categorical\_accuracy did not improve from 0.77604

26/26 [==============================] - 21s 704ms/step - loss: 0.3516 - categorical\_accuracy: 0.9916 - val\_loss: 0.9297 - val\_categorical\_accuracy: 0.6719 - lr: 0.0718

Epoch 109: LearningRateScheduler setting learning rate to 0.07128896457825364.

Epoch 109/300

26/26 [==============================] - ETA: 0s - loss: 0.3488 - categorical\_accuracy: 0.9934

Epoch 109: val\_categorical\_accuracy did not improve from 0.77604

Epoch 109: val\_categorical\_accuracy did not improve from 0.77604

26/26 [==============================] - 21s 715ms/step - loss: 0.3488 - categorical\_accuracy: 0.9934 - val\_loss: 1.0582 - val\_categorical\_accuracy: 0.6120 - lr: 0.0713

Epoch 110: LearningRateScheduler setting learning rate to 0.07081403961302006.

Epoch 110/300

26/26 [==============================] - ETA: 0s - loss: 0.3502 - categorical\_accuracy: 0.9922

Epoch 110: val\_categorical\_accuracy did not improve from 0.77604

Epoch 110: val\_categorical\_accuracy did not improve from 0.77604

26/26 [==============================] - 22s 716ms/step - loss: 0.3502 - categorical\_accuracy: 0.9922 - val\_loss: 1.0589 - val\_categorical\_accuracy: 0.5990 - lr: 0.0708

Epoch 111: LearningRateScheduler setting learning rate to 0.07033683215379001.

Epoch 111/300

26/26 [==============================] - ETA: 0s - loss: 0.3495 - categorical\_accuracy: 0.9916

Epoch 111: val\_categorical\_accuracy did not improve from 0.77604

Epoch 111: val\_categorical\_accuracy did not improve from 0.77604

26/26 [==============================] - 22s 729ms/step - loss: 0.3495 - categorical\_accuracy: 0.9916 - val\_loss: 1.1269 - val\_categorical\_accuracy: 0.5781 - lr: 0.0703

Epoch 112: LearningRateScheduler setting learning rate to 0.06985739453173903.

Epoch 112/300

26/26 [==============================] - ETA: 0s - loss: 0.3495 - categorical\_accuracy: 0.9922

Epoch 112: val\_categorical\_accuracy did not improve from 0.77604

Epoch 112: val\_categorical\_accuracy did not improve from 0.77604

26/26 [==============================] - 21s 705ms/step - loss: 0.3495 - categorical\_accuracy: 0.9922 - val\_loss: 1.0879 - val\_categorical\_accuracy: 0.6250 - lr: 0.0699

Epoch 113: LearningRateScheduler setting learning rate to 0.06937577932260515.

Epoch 113/300

26/26 [==============================] - ETA: 0s - loss: 0.3462 - categorical\_accuracy: 0.9934

Epoch 113: val\_categorical\_accuracy did not improve from 0.77604

Epoch 113: val\_categorical\_accuracy did not improve from 0.77604

26/26 [==============================] - 22s 721ms/step - loss: 0.3462 - categorical\_accuracy: 0.9934 - val\_loss: 0.8965 - val\_categorical\_accuracy: 0.7656 - lr: 0.0694

Epoch 114: LearningRateScheduler setting learning rate to 0.06889203934092336.

Epoch 114/300

26/26 [==============================] - ETA: 0s - loss: 0.3524 - categorical\_accuracy: 0.9873

Epoch 114: val\_categorical\_accuracy did not improve from 0.77604

Epoch 114: val\_categorical\_accuracy did not improve from 0.77604

26/26 [==============================] - 21s 732ms/step - loss: 0.3524 - categorical\_accuracy: 0.9873 - val\_loss: 0.8894 - val\_categorical\_accuracy: 0.6224 - lr: 0.0689

Epoch 115: LearningRateScheduler setting learning rate to 0.06840622763423392.

Epoch 115/300

26/26 [==============================] - ETA: 0s - loss: 0.3439 - categorical\_accuracy: 0.9909

Epoch 115: val\_categorical\_accuracy did not improve from 0.77604

Epoch 115: val\_categorical\_accuracy did not improve from 0.77604

26/26 [==============================] - 22s 722ms/step - loss: 0.3439 - categorical\_accuracy: 0.9909 - val\_loss: 0.9526 - val\_categorical\_accuracy: 0.6849 - lr: 0.0684

Epoch 116: LearningRateScheduler setting learning rate to 0.06791839747726501.

Epoch 116/300

26/26 [==============================] - ETA: 0s - loss: 0.3407 - categorical\_accuracy: 0.9946

Epoch 116: val\_categorical\_accuracy did not improve from 0.77604

Epoch 116: val\_categorical\_accuracy did not improve from 0.77604

26/26 [==============================] - 22s 721ms/step - loss: 0.3407 - categorical\_accuracy: 0.9946 - val\_loss: 0.8674 - val\_categorical\_accuracy: 0.7083 - lr: 0.0679

Epoch 117: LearningRateScheduler setting learning rate to 0.06742860236609076.

Epoch 117/300

26/26 [==============================] - ETA: 0s - loss: 0.3434 - categorical\_accuracy: 0.9952

Epoch 117: val\_categorical\_accuracy did not improve from 0.77604

Epoch 117: val\_categorical\_accuracy did not improve from 0.77604

26/26 [==============================] - 21s 703ms/step - loss: 0.3434 - categorical\_accuracy: 0.9952 - val\_loss: 0.9848 - val\_categorical\_accuracy: 0.6536 - lr: 0.0674

Epoch 118: LearningRateScheduler setting learning rate to 0.06693689601226459.

Epoch 118/300

26/26 [==============================] - ETA: 0s - loss: 0.3432 - categorical\_accuracy: 0.9916

Epoch 118: val\_categorical\_accuracy did not improve from 0.77604

Epoch 118: val\_categorical\_accuracy did not improve from 0.77604

26/26 [==============================] - 23s 723ms/step - loss: 0.3432 - categorical\_accuracy: 0.9916 - val\_loss: 0.8302 - val\_categorical\_accuracy: 0.7266 - lr: 0.0669

Epoch 119: LearningRateScheduler setting learning rate to 0.06644333233692916.

Epoch 119/300

26/26 [==============================] - ETA: 0s - loss: 0.3436 - categorical\_accuracy: 0.9922

Epoch 119: val\_categorical\_accuracy did not improve from 0.77604

Epoch 119: val\_categorical\_accuracy did not improve from 0.77604

26/26 [==============================] - 22s 710ms/step - loss: 0.3436 - categorical\_accuracy: 0.9922 - val\_loss: 1.2176 - val\_categorical\_accuracy: 0.6042 - lr: 0.0664

Epoch 120: LearningRateScheduler setting learning rate to 0.0659479654649035.

Epoch 120/300

26/26 [==============================] - ETA: 0s - loss: 0.3477 - categorical\_accuracy: 0.9891

Epoch 120: val\_categorical\_accuracy did not improve from 0.77604

Epoch 120: val\_categorical\_accuracy did not improve from 0.77604

26/26 [==============================] - 22s 731ms/step - loss: 0.3477 - categorical\_accuracy: 0.9891 - val\_loss: 1.0102 - val\_categorical\_accuracy: 0.6693 - lr: 0.0659

Epoch 121: LearningRateScheduler setting learning rate to 0.06545084971874737.

Epoch 121/300

26/26 [==============================] - ETA: 0s - loss: 0.3369 - categorical\_accuracy: 0.9976

Epoch 121: val\_categorical\_accuracy did not improve from 0.77604

Epoch 121: val\_categorical\_accuracy did not improve from 0.77604

26/26 [==============================] - 21s 721ms/step - loss: 0.3369 - categorical\_accuracy: 0.9976 - val\_loss: 0.8244 - val\_categorical\_accuracy: 0.7031 - lr: 0.0655

Epoch 122: LearningRateScheduler setting learning rate to 0.06495203961280434.

Epoch 122/300

26/26 [==============================] - ETA: 0s - loss: 0.3471 - categorical\_accuracy: 0.9891

Epoch 122: val\_categorical\_accuracy did not improve from 0.77604

Epoch 122: val\_categorical\_accuracy did not improve from 0.77604

26/26 [==============================] - 22s 715ms/step - loss: 0.3471 - categorical\_accuracy: 0.9891 - val\_loss: 1.0515 - val\_categorical\_accuracy: 0.6276 - lr: 0.0650

Epoch 123: LearningRateScheduler setting learning rate to 0.06445158984722359.

Epoch 123/300

26/26 [==============================] - ETA: 0s - loss: 0.3483 - categorical\_accuracy: 0.9885

Epoch 123: val\_categorical\_accuracy did not improve from 0.77604

Epoch 123: val\_categorical\_accuracy did not improve from 0.77604

26/26 [==============================] - 21s 715ms/step - loss: 0.3483 - categorical\_accuracy: 0.9885 - val\_loss: 1.0009 - val\_categorical\_accuracy: 0.6120 - lr: 0.0645

Epoch 124: LearningRateScheduler setting learning rate to 0.06394955530196147.

Epoch 124/300

26/26 [==============================] - ETA: 0s - loss: 0.3406 - categorical\_accuracy: 0.9934

Epoch 124: val\_categorical\_accuracy did not improve from 0.77604

Epoch 124: val\_categorical\_accuracy did not improve from 0.77604

26/26 [==============================] - 22s 709ms/step - loss: 0.3406 - categorical\_accuracy: 0.9934 - val\_loss: 1.0624 - val\_categorical\_accuracy: 0.6745 - lr: 0.0639

Epoch 125: LearningRateScheduler setting learning rate to 0.06344599103076329.

Epoch 125/300

26/26 [==============================] - ETA: 0s - loss: 0.3399 - categorical\_accuracy: 0.9946

Epoch 125: val\_categorical\_accuracy did not improve from 0.77604

Epoch 125: val\_categorical\_accuracy did not improve from 0.77604

26/26 [==============================] - 24s 730ms/step - loss: 0.3399 - categorical\_accuracy: 0.9946 - val\_loss: 0.8495 - val\_categorical\_accuracy: 0.6953 - lr: 0.0634

Epoch 126: LearningRateScheduler setting learning rate to 0.06294095225512605.

Epoch 126/300

26/26 [==============================] - ETA: 0s - loss: 0.3424 - categorical\_accuracy: 0.9909

Epoch 126: val\_categorical\_accuracy did not improve from 0.77604

Epoch 126: val\_categorical\_accuracy did not improve from 0.77604

26/26 [==============================] - 22s 710ms/step - loss: 0.3424 - categorical\_accuracy: 0.9909 - val\_loss: 1.0485 - val\_categorical\_accuracy: 0.6823 - lr: 0.0629

Epoch 127: LearningRateScheduler setting learning rate to 0.062434494358242734.

Epoch 127/300

26/26 [==============================] - ETA: 0s - loss: 0.3463 - categorical\_accuracy: 0.9891

Epoch 127: val\_categorical\_accuracy did not improve from 0.77604

Epoch 127: val\_categorical\_accuracy did not improve from 0.77604

26/26 [==============================] - 21s 709ms/step - loss: 0.3463 - categorical\_accuracy: 0.9891 - val\_loss: 1.0739 - val\_categorical\_accuracy: 0.5521 - lr: 0.0624

Epoch 128: LearningRateScheduler setting learning rate to 0.06192667287892905.

Epoch 128/300

26/26 [==============================] - ETA: 0s - loss: 0.3377 - categorical\_accuracy: 0.9946

Epoch 128: val\_categorical\_accuracy did not improve from 0.77604

Epoch 128: val\_categorical\_accuracy did not improve from 0.77604

26/26 [==============================] - 21s 712ms/step - loss: 0.3377 - categorical\_accuracy: 0.9946 - val\_loss: 0.9898 - val\_categorical\_accuracy: 0.6302 - lr: 0.0619

Epoch 129: LearningRateScheduler setting learning rate to 0.061417543505532794.

Epoch 129/300

26/26 [==============================] - ETA: 0s - loss: 0.3477 - categorical\_accuracy: 0.9873

Epoch 129: val\_categorical\_accuracy did not improve from 0.77604

Epoch 129: val\_categorical\_accuracy did not improve from 0.77604

26/26 [==============================] - 21s 721ms/step - loss: 0.3477 - categorical\_accuracy: 0.9873 - val\_loss: 0.9069 - val\_categorical\_accuracy: 0.7214 - lr: 0.0614

Epoch 130: LearningRateScheduler setting learning rate to 0.06090716206982714.

Epoch 130/300

26/26 [==============================] - ETA: 0s - loss: 0.3403 - categorical\_accuracy: 0.9940

Epoch 130: val\_categorical\_accuracy did not improve from 0.77604

Epoch 130: val\_categorical\_accuracy did not improve from 0.77604

26/26 [==============================] - 21s 723ms/step - loss: 0.3403 - categorical\_accuracy: 0.9940 - val\_loss: 1.0358 - val\_categorical\_accuracy: 0.6953 - lr: 0.0609

Epoch 131: LearningRateScheduler setting learning rate to 0.060395584540887975.

Epoch 131/300

26/26 [==============================] - ETA: 0s - loss: 0.3348 - categorical\_accuracy: 0.9958

Epoch 131: val\_categorical\_accuracy did not improve from 0.77604

Epoch 131: val\_categorical\_accuracy did not improve from 0.77604

26/26 [==============================] - 22s 717ms/step - loss: 0.3348 - categorical\_accuracy: 0.9958 - val\_loss: 0.9651 - val\_categorical\_accuracy: 0.6536 - lr: 0.0604

Epoch 132: LearningRateScheduler setting learning rate to 0.0598828670189563.

Epoch 132/300

26/26 [==============================] - ETA: 0s - loss: 0.3383 - categorical\_accuracy: 0.9946

Epoch 132: val\_categorical\_accuracy did not improve from 0.77604

Epoch 132: val\_categorical\_accuracy did not improve from 0.77604

26/26 [==============================] - 21s 712ms/step - loss: 0.3383 - categorical\_accuracy: 0.9946 - val\_loss: 0.8827 - val\_categorical\_accuracy: 0.6979 - lr: 0.0599

Epoch 133: LearningRateScheduler setting learning rate to 0.05936906572928624.

Epoch 133/300

26/26 [==============================] - ETA: 0s - loss: 0.3434 - categorical\_accuracy: 0.9922

Epoch 133: val\_categorical\_accuracy did not improve from 0.77604

Epoch 133: val\_categorical\_accuracy did not improve from 0.77604

26/26 [==============================] - 22s 725ms/step - loss: 0.3434 - categorical\_accuracy: 0.9922 - val\_loss: 1.0503 - val\_categorical\_accuracy: 0.5781 - lr: 0.0594

Epoch 134: LearningRateScheduler setting learning rate to 0.05885423701597917.

Epoch 134/300

26/26 [==============================] - ETA: 0s - loss: 0.3334 - categorical\_accuracy: 0.9970

Epoch 134: val\_categorical\_accuracy did not improve from 0.77604

Epoch 134: val\_categorical\_accuracy did not improve from 0.77604

26/26 [==============================] - 21s 712ms/step - loss: 0.3334 - categorical\_accuracy: 0.9970 - val\_loss: 0.8838 - val\_categorical\_accuracy: 0.7266 - lr: 0.0589

Epoch 135: LearningRateScheduler setting learning rate to 0.05833843733580512.

Epoch 135/300

26/26 [==============================] - ETA: 0s - loss: 0.3333 - categorical\_accuracy: 0.9958

Epoch 135: val\_categorical\_accuracy did not improve from 0.77604

Epoch 135: val\_categorical\_accuracy did not improve from 0.77604

26/26 [==============================] - 21s 715ms/step - loss: 0.3333 - categorical\_accuracy: 0.9958 - val\_loss: 0.9745 - val\_categorical\_accuracy: 0.6745 - lr: 0.0583

Epoch 136: LearningRateScheduler setting learning rate to 0.05782172325201155.

Epoch 136/300

26/26 [==============================] - ETA: 0s - loss: 0.3312 - categorical\_accuracy: 0.9964

Epoch 136: val\_categorical\_accuracy did not improve from 0.77604

Epoch 136: val\_categorical\_accuracy did not improve from 0.77604

26/26 [==============================] - 21s 721ms/step - loss: 0.3312 - categorical\_accuracy: 0.9964 - val\_loss: 0.8204 - val\_categorical\_accuracy: 0.7005 - lr: 0.0578

Epoch 137: LearningRateScheduler setting learning rate to 0.05730415142812059.

Epoch 137/300

26/26 [==============================] - ETA: 0s - loss: 0.3311 - categorical\_accuracy: 0.9964

Epoch 137: val\_categorical\_accuracy did not improve from 0.77604

Epoch 137: val\_categorical\_accuracy did not improve from 0.77604

26/26 [==============================] - 21s 702ms/step - loss: 0.3311 - categorical\_accuracy: 0.9964 - val\_loss: 0.8541 - val\_categorical\_accuracy: 0.7240 - lr: 0.0573

Epoch 138: LearningRateScheduler setting learning rate to 0.05678577862171522.

Epoch 138/300

26/26 [==============================] - ETA: 0s - loss: 0.3294 - categorical\_accuracy: 0.9964

Epoch 138: val\_categorical\_accuracy improved from 0.77604 to 0.80469, saving model to ../results/model.h5

Epoch 138: val\_categorical\_accuracy improved from 0.77604 to 0.80469, saving model to ../results/model\_weights.h5

26/26 [==============================] - 23s 768ms/step - loss: 0.3294 - categorical\_accuracy: 0.9964 - val\_loss: 0.7735 - val\_categorical\_accuracy: 0.8047 - lr: 0.0568

Epoch 139: LearningRateScheduler setting learning rate to 0.056266661678215216.

Epoch 139/300

26/26 [==============================] - ETA: 0s - loss: 0.3387 - categorical\_accuracy: 0.9909

Epoch 139: val\_categorical\_accuracy did not improve from 0.80469

Epoch 139: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 715ms/step - loss: 0.3387 - categorical\_accuracy: 0.9909 - val\_loss: 0.9133 - val\_categorical\_accuracy: 0.7135 - lr: 0.0563

Epoch 140: LearningRateScheduler setting learning rate to 0.05574685752464334.

Epoch 140/300

26/26 [==============================] - ETA: 0s - loss: 0.3348 - categorical\_accuracy: 0.9946

Epoch 140: val\_categorical\_accuracy did not improve from 0.80469

Epoch 140: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 711ms/step - loss: 0.3348 - categorical\_accuracy: 0.9946 - val\_loss: 1.3945 - val\_categorical\_accuracy: 0.5182 - lr: 0.0557

Epoch 141: LearningRateScheduler setting learning rate to 0.05522642316338269.

Epoch 141/300

26/26 [==============================] - ETA: 0s - loss: 0.3326 - categorical\_accuracy: 0.9940

Epoch 141: val\_categorical\_accuracy did not improve from 0.80469

Epoch 141: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 702ms/step - loss: 0.3326 - categorical\_accuracy: 0.9940 - val\_loss: 0.9771 - val\_categorical\_accuracy: 0.6510 - lr: 0.0552

Epoch 142: LearningRateScheduler setting learning rate to 0.05470541566592573.

Epoch 142/300

26/26 [==============================] - ETA: 0s - loss: 0.3273 - categorical\_accuracy: 0.9976

Epoch 142: val\_categorical\_accuracy did not improve from 0.80469

Epoch 142: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 23s 720ms/step - loss: 0.3273 - categorical\_accuracy: 0.9976 - val\_loss: 0.8657 - val\_categorical\_accuracy: 0.6849 - lr: 0.0547

Epoch 143: LearningRateScheduler setting learning rate to 0.05418389216661578.

Epoch 143/300

26/26 [==============================] - ETA: 0s - loss: 0.3304 - categorical\_accuracy: 0.9940

Epoch 143: val\_categorical\_accuracy did not improve from 0.80469

Epoch 143: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 708ms/step - loss: 0.3304 - categorical\_accuracy: 0.9940 - val\_loss: 0.9178 - val\_categorical\_accuracy: 0.7318 - lr: 0.0542

Epoch 144: LearningRateScheduler setting learning rate to 0.053661909856381584.

Epoch 144/300

26/26 [==============================] - ETA: 0s - loss: 0.3428 - categorical\_accuracy: 0.9867

Epoch 144: val\_categorical\_accuracy did not improve from 0.80469

Epoch 144: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 711ms/step - loss: 0.3428 - categorical\_accuracy: 0.9867 - val\_loss: 0.9101 - val\_categorical\_accuracy: 0.7266 - lr: 0.0537

Epoch 145: LearningRateScheduler setting learning rate to 0.05313952597646568.

Epoch 145/300

26/26 [==============================] - ETA: 0s - loss: 0.3397 - categorical\_accuracy: 0.9891

Epoch 145: val\_categorical\_accuracy did not improve from 0.80469

Epoch 145: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 728ms/step - loss: 0.3397 - categorical\_accuracy: 0.9891 - val\_loss: 1.0047 - val\_categorical\_accuracy: 0.6667 - lr: 0.0531

Epoch 146: LearningRateScheduler setting learning rate to 0.052616797812147204.

Epoch 146/300

26/26 [==============================] - ETA: 0s - loss: 0.3341 - categorical\_accuracy: 0.9946

Epoch 146: val\_categorical\_accuracy did not improve from 0.80469

Epoch 146: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 714ms/step - loss: 0.3341 - categorical\_accuracy: 0.9946 - val\_loss: 1.1995 - val\_categorical\_accuracy: 0.6172 - lr: 0.0526

Epoch 147: LearningRateScheduler setting learning rate to 0.05209378268645999.

Epoch 147/300

26/26 [==============================] - ETA: 0s - loss: 0.3318 - categorical\_accuracy: 0.9934

Epoch 147: val\_categorical\_accuracy did not improve from 0.80469

Epoch 147: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 720ms/step - loss: 0.3318 - categorical\_accuracy: 0.9934 - val\_loss: 0.9391 - val\_categorical\_accuracy: 0.7448 - lr: 0.0521

Epoch 148: LearningRateScheduler setting learning rate to 0.051570537953906405.

Epoch 148/300

26/26 [==============================] - ETA: 0s - loss: 0.3340 - categorical\_accuracy: 0.9928

Epoch 148: val\_categorical\_accuracy did not improve from 0.80469

Epoch 148: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 727ms/step - loss: 0.3340 - categorical\_accuracy: 0.9928 - val\_loss: 1.0527 - val\_categorical\_accuracy: 0.6250 - lr: 0.0516

Epoch 149: LearningRateScheduler setting learning rate to 0.051047120994167854.

Epoch 149/300

26/26 [==============================] - ETA: 0s - loss: 0.3449 - categorical\_accuracy: 0.9903

Epoch 149: val\_categorical\_accuracy did not improve from 0.80469

Epoch 149: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 708ms/step - loss: 0.3449 - categorical\_accuracy: 0.9903 - val\_loss: 1.1303 - val\_categorical\_accuracy: 0.6016 - lr: 0.0510

Epoch 150: LearningRateScheduler setting learning rate to 0.05052358920581229.

Epoch 150/300

26/26 [==============================] - ETA: 0s - loss: 0.3315 - categorical\_accuracy: 0.9952

Epoch 150: val\_categorical\_accuracy did not improve from 0.80469

Epoch 150: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 23s 720ms/step - loss: 0.3315 - categorical\_accuracy: 0.9952 - val\_loss: 1.1197 - val\_categorical\_accuracy: 0.6094 - lr: 0.0505

Epoch 151: LearningRateScheduler setting learning rate to 0.05.

Epoch 151/300

26/26 [==============================] - ETA: 0s - loss: 0.3313 - categorical\_accuracy: 0.9958

Epoch 151: val\_categorical\_accuracy did not improve from 0.80469

Epoch 151: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 726ms/step - loss: 0.3313 - categorical\_accuracy: 0.9958 - val\_loss: 0.8881 - val\_categorical\_accuracy: 0.7031 - lr: 0.0500

Epoch 152: LearningRateScheduler setting learning rate to 0.049476410794187714.

Epoch 152/300

26/26 [==============================] - ETA: 0s - loss: 0.3335 - categorical\_accuracy: 0.9934

Epoch 152: val\_categorical\_accuracy did not improve from 0.80469

Epoch 152: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 714ms/step - loss: 0.3335 - categorical\_accuracy: 0.9934 - val\_loss: 0.9538 - val\_categorical\_accuracy: 0.6302 - lr: 0.0495

Epoch 153: LearningRateScheduler setting learning rate to 0.04895287900583217.

Epoch 153/300

26/26 [==============================] - ETA: 0s - loss: 0.3333 - categorical\_accuracy: 0.9952

Epoch 153: val\_categorical\_accuracy did not improve from 0.80469

Epoch 153: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 714ms/step - loss: 0.3333 - categorical\_accuracy: 0.9952 - val\_loss: 0.9430 - val\_categorical\_accuracy: 0.6250 - lr: 0.0490

Epoch 154: LearningRateScheduler setting learning rate to 0.04842946204609359.

Epoch 154/300

26/26 [==============================] - ETA: 0s - loss: 0.3321 - categorical\_accuracy: 0.9940

Epoch 154: val\_categorical\_accuracy did not improve from 0.80469

Epoch 154: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 721ms/step - loss: 0.3321 - categorical\_accuracy: 0.9940 - val\_loss: 0.8147 - val\_categorical\_accuracy: 0.7240 - lr: 0.0484

Epoch 155: LearningRateScheduler setting learning rate to 0.04790621731354002.

Epoch 155/300

26/26 [==============================] - ETA: 0s - loss: 0.3320 - categorical\_accuracy: 0.9946

Epoch 155: val\_categorical\_accuracy did not improve from 0.80469

Epoch 155: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 720ms/step - loss: 0.3320 - categorical\_accuracy: 0.9946 - val\_loss: 0.8654 - val\_categorical\_accuracy: 0.7161 - lr: 0.0479

Epoch 156: LearningRateScheduler setting learning rate to 0.04738320218785281.

Epoch 156/300

26/26 [==============================] - ETA: 0s - loss: 0.3323 - categorical\_accuracy: 0.9952

Epoch 156: val\_categorical\_accuracy did not improve from 0.80469

Epoch 156: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 721ms/step - loss: 0.3323 - categorical\_accuracy: 0.9952 - val\_loss: 0.8496 - val\_categorical\_accuracy: 0.7292 - lr: 0.0474

Epoch 157: LearningRateScheduler setting learning rate to 0.04686047402353435.

Epoch 157/300

26/26 [==============================] - ETA: 0s - loss: 0.3265 - categorical\_accuracy: 0.9958

Epoch 157: val\_categorical\_accuracy did not improve from 0.80469

Epoch 157: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 715ms/step - loss: 0.3265 - categorical\_accuracy: 0.9958 - val\_loss: 0.8354 - val\_categorical\_accuracy: 0.7526 - lr: 0.0469

Epoch 158: LearningRateScheduler setting learning rate to 0.04633809014361843.

Epoch 158/300

26/26 [==============================] - ETA: 0s - loss: 0.3238 - categorical\_accuracy: 0.9976

Epoch 158: val\_categorical\_accuracy did not improve from 0.80469

Epoch 158: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 701ms/step - loss: 0.3238 - categorical\_accuracy: 0.9976 - val\_loss: 0.9705 - val\_categorical\_accuracy: 0.6380 - lr: 0.0463

Epoch 159: LearningRateScheduler setting learning rate to 0.045816107833384224.

Epoch 159/300

26/26 [==============================] - ETA: 0s - loss: 0.3330 - categorical\_accuracy: 0.9940

Epoch 159: val\_categorical\_accuracy did not improve from 0.80469

Epoch 159: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 710ms/step - loss: 0.3330 - categorical\_accuracy: 0.9940 - val\_loss: 1.0608 - val\_categorical\_accuracy: 0.6302 - lr: 0.0458

Epoch 160: LearningRateScheduler setting learning rate to 0.04529458433407429.

Epoch 160/300

26/26 [==============================] - ETA: 0s - loss: 0.3357 - categorical\_accuracy: 0.9903

Epoch 160: val\_categorical\_accuracy did not improve from 0.80469

Epoch 160: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 707ms/step - loss: 0.3357 - categorical\_accuracy: 0.9903 - val\_loss: 0.9419 - val\_categorical\_accuracy: 0.7552 - lr: 0.0453

Epoch 161: LearningRateScheduler setting learning rate to 0.04477357683661734.

Epoch 161/300

26/26 [==============================] - ETA: 0s - loss: 0.3325 - categorical\_accuracy: 0.9946

Epoch 161: val\_categorical\_accuracy did not improve from 0.80469

Epoch 161: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 711ms/step - loss: 0.3325 - categorical\_accuracy: 0.9946 - val\_loss: 1.0156 - val\_categorical\_accuracy: 0.6198 - lr: 0.0448

Epoch 162: LearningRateScheduler setting learning rate to 0.04425314247535668.

Epoch 162/300

26/26 [==============================] - ETA: 0s - loss: 0.3281 - categorical\_accuracy: 0.9958

Epoch 162: val\_categorical\_accuracy did not improve from 0.80469

Epoch 162: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 711ms/step - loss: 0.3281 - categorical\_accuracy: 0.9958 - val\_loss: 0.9509 - val\_categorical\_accuracy: 0.6667 - lr: 0.0443

Epoch 163: LearningRateScheduler setting learning rate to 0.0437333383217848.

Epoch 163/300

26/26 [==============================] - ETA: 0s - loss: 0.3269 - categorical\_accuracy: 0.9940

Epoch 163: val\_categorical\_accuracy did not improve from 0.80469

Epoch 163: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 23s 725ms/step - loss: 0.3269 - categorical\_accuracy: 0.9940 - val\_loss: 1.1382 - val\_categorical\_accuracy: 0.5599 - lr: 0.0437

Epoch 164: LearningRateScheduler setting learning rate to 0.04321422137828479.

Epoch 164/300

26/26 [==============================] - ETA: 0s - loss: 0.3262 - categorical\_accuracy: 0.9970

Epoch 164: val\_categorical\_accuracy did not improve from 0.80469

Epoch 164: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 720ms/step - loss: 0.3262 - categorical\_accuracy: 0.9970 - val\_loss: 0.9132 - val\_categorical\_accuracy: 0.6250 - lr: 0.0432

Epoch 165: LearningRateScheduler setting learning rate to 0.04269584857187944.

Epoch 165/300

26/26 [==============================] - ETA: 0s - loss: 0.3280 - categorical\_accuracy: 0.9958

Epoch 165: val\_categorical\_accuracy did not improve from 0.80469

Epoch 165: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 724ms/step - loss: 0.3280 - categorical\_accuracy: 0.9958 - val\_loss: 1.0932 - val\_categorical\_accuracy: 0.6042 - lr: 0.0427

Epoch 166: LearningRateScheduler setting learning rate to 0.04217827674798847.

Epoch 166/300

26/26 [==============================] - ETA: 0s - loss: 0.3283 - categorical\_accuracy: 0.9946

Epoch 166: val\_categorical\_accuracy did not improve from 0.80469

Epoch 166: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 721ms/step - loss: 0.3283 - categorical\_accuracy: 0.9946 - val\_loss: 0.9986 - val\_categorical\_accuracy: 0.5781 - lr: 0.0422

Epoch 167: LearningRateScheduler setting learning rate to 0.04166156266419488.

Epoch 167/300

26/26 [==============================] - ETA: 0s - loss: 0.3256 - categorical\_accuracy: 0.9964

Epoch 167: val\_categorical\_accuracy did not improve from 0.80469

Epoch 167: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 726ms/step - loss: 0.3256 - categorical\_accuracy: 0.9964 - val\_loss: 1.0285 - val\_categorical\_accuracy: 0.6042 - lr: 0.0417

Epoch 168: LearningRateScheduler setting learning rate to 0.04114576298402084.

Epoch 168/300

26/26 [==============================] - ETA: 0s - loss: 0.3294 - categorical\_accuracy: 0.9934

Epoch 168: val\_categorical\_accuracy did not improve from 0.80469

Epoch 168: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 720ms/step - loss: 0.3294 - categorical\_accuracy: 0.9934 - val\_loss: 0.9063 - val\_categorical\_accuracy: 0.6641 - lr: 0.0411

Epoch 169: LearningRateScheduler setting learning rate to 0.04063093427071377.

Epoch 169/300

26/26 [==============================] - ETA: 0s - loss: 0.3330 - categorical\_accuracy: 0.9922

Epoch 169: val\_categorical\_accuracy did not improve from 0.80469

Epoch 169: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 727ms/step - loss: 0.3330 - categorical\_accuracy: 0.9922 - val\_loss: 1.6776 - val\_categorical\_accuracy: 0.3438 - lr: 0.0406

Epoch 170: LearningRateScheduler setting learning rate to 0.04011713298104369.

Epoch 170/300

26/26 [==============================] - ETA: 0s - loss: 0.3322 - categorical\_accuracy: 0.9940

Epoch 170: val\_categorical\_accuracy did not improve from 0.80469

Epoch 170: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 709ms/step - loss: 0.3322 - categorical\_accuracy: 0.9940 - val\_loss: 0.9420 - val\_categorical\_accuracy: 0.6953 - lr: 0.0401

Epoch 171: LearningRateScheduler setting learning rate to 0.03960441545911203.

Epoch 171/300

26/26 [==============================] - ETA: 0s - loss: 0.3305 - categorical\_accuracy: 0.9946

Epoch 171: val\_categorical\_accuracy did not improve from 0.80469

Epoch 171: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 719ms/step - loss: 0.3305 - categorical\_accuracy: 0.9946 - val\_loss: 1.0438 - val\_categorical\_accuracy: 0.6172 - lr: 0.0396

Epoch 172: LearningRateScheduler setting learning rate to 0.039092837930172875.

Epoch 172/300

26/26 [==============================] - ETA: 0s - loss: 0.3257 - categorical\_accuracy: 0.9964

Epoch 172: val\_categorical\_accuracy did not improve from 0.80469

Epoch 172: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 725ms/step - loss: 0.3257 - categorical\_accuracy: 0.9964 - val\_loss: 0.9628 - val\_categorical\_accuracy: 0.6979 - lr: 0.0391

Epoch 173: LearningRateScheduler setting learning rate to 0.038582456494467225.

Epoch 173/300

26/26 [==============================] - ETA: 0s - loss: 0.3257 - categorical\_accuracy: 0.9958

Epoch 173: val\_categorical\_accuracy did not improve from 0.80469

Epoch 173: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 708ms/step - loss: 0.3257 - categorical\_accuracy: 0.9958 - val\_loss: 0.9364 - val\_categorical\_accuracy: 0.7135 - lr: 0.0386

Epoch 174: LearningRateScheduler setting learning rate to 0.03807332712107097.

Epoch 174/300

26/26 [==============================] - ETA: 0s - loss: 0.3229 - categorical\_accuracy: 0.9964

Epoch 174: val\_categorical\_accuracy did not improve from 0.80469

Epoch 174: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 709ms/step - loss: 0.3229 - categorical\_accuracy: 0.9964 - val\_loss: 1.1235 - val\_categorical\_accuracy: 0.5964 - lr: 0.0381

Epoch 175: LearningRateScheduler setting learning rate to 0.03756550564175727.

Epoch 175/300

26/26 [==============================] - ETA: 0s - loss: 0.3305 - categorical\_accuracy: 0.9916

Epoch 175: val\_categorical\_accuracy did not improve from 0.80469

Epoch 175: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 717ms/step - loss: 0.3305 - categorical\_accuracy: 0.9916 - val\_loss: 0.8238 - val\_categorical\_accuracy: 0.6979 - lr: 0.0376

Epoch 176: LearningRateScheduler setting learning rate to 0.03705904774487397.

Epoch 176/300

26/26 [==============================] - ETA: 0s - loss: 0.3285 - categorical\_accuracy: 0.9952

Epoch 176: val\_categorical\_accuracy did not improve from 0.80469

Epoch 176: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 701ms/step - loss: 0.3285 - categorical\_accuracy: 0.9952 - val\_loss: 0.9422 - val\_categorical\_accuracy: 0.7630 - lr: 0.0371

Epoch 177: LearningRateScheduler setting learning rate to 0.03655400896923673.

Epoch 177/300

26/26 [==============================] - ETA: 0s - loss: 0.3208 - categorical\_accuracy: 0.9982

Epoch 177: val\_categorical\_accuracy did not improve from 0.80469

Epoch 177: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 714ms/step - loss: 0.3208 - categorical\_accuracy: 0.9982 - val\_loss: 0.9268 - val\_categorical\_accuracy: 0.7448 - lr: 0.0366

Epoch 178: LearningRateScheduler setting learning rate to 0.03605044469803853.

Epoch 178/300

26/26 [==============================] - ETA: 0s - loss: 0.3226 - categorical\_accuracy: 0.9964

Epoch 178: val\_categorical\_accuracy did not improve from 0.80469

Epoch 178: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 714ms/step - loss: 0.3226 - categorical\_accuracy: 0.9964 - val\_loss: 0.9162 - val\_categorical\_accuracy: 0.6589 - lr: 0.0361

Epoch 179: LearningRateScheduler setting learning rate to 0.03554841015277641.

Epoch 179/300

26/26 [==============================] - ETA: 0s - loss: 0.3224 - categorical\_accuracy: 0.9958

Epoch 179: val\_categorical\_accuracy did not improve from 0.80469

Epoch 179: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 715ms/step - loss: 0.3224 - categorical\_accuracy: 0.9958 - val\_loss: 0.8991 - val\_categorical\_accuracy: 0.6797 - lr: 0.0355

Epoch 180: LearningRateScheduler setting learning rate to 0.035047960387195674.

Epoch 180/300

26/26 [==============================] - ETA: 0s - loss: 0.3200 - categorical\_accuracy: 0.9970

Epoch 180: val\_categorical\_accuracy did not improve from 0.80469

Epoch 180: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 718ms/step - loss: 0.3200 - categorical\_accuracy: 0.9970 - val\_loss: 0.8287 - val\_categorical\_accuracy: 0.6693 - lr: 0.0350

Epoch 181: LearningRateScheduler setting learning rate to 0.03454915028125263.

Epoch 181/300

26/26 [==============================] - ETA: 0s - loss: 0.3308 - categorical\_accuracy: 0.9928

Epoch 181: val\_categorical\_accuracy did not improve from 0.80469

Epoch 181: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 704ms/step - loss: 0.3308 - categorical\_accuracy: 0.9928 - val\_loss: 1.2739 - val\_categorical\_accuracy: 0.5026 - lr: 0.0345

Epoch 182: LearningRateScheduler setting learning rate to 0.034052034535096504.

Epoch 182/300

26/26 [==============================] - ETA: 0s - loss: 0.3263 - categorical\_accuracy: 0.9958

Epoch 182: val\_categorical\_accuracy did not improve from 0.80469

Epoch 182: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 23s 734ms/step - loss: 0.3263 - categorical\_accuracy: 0.9958 - val\_loss: 1.1493 - val\_categorical\_accuracy: 0.6250 - lr: 0.0341

Epoch 183: LearningRateScheduler setting learning rate to 0.03355666766307084.

Epoch 183/300

26/26 [==============================] - ETA: 0s - loss: 0.3219 - categorical\_accuracy: 0.9970

Epoch 183: val\_categorical\_accuracy did not improve from 0.80469

Epoch 183: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 716ms/step - loss: 0.3219 - categorical\_accuracy: 0.9970 - val\_loss: 0.9768 - val\_categorical\_accuracy: 0.6641 - lr: 0.0336

Epoch 184: LearningRateScheduler setting learning rate to 0.03306310398773543.

Epoch 184/300

26/26 [==============================] - ETA: 0s - loss: 0.3225 - categorical\_accuracy: 0.9964

Epoch 184: val\_categorical\_accuracy did not improve from 0.80469

Epoch 184: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 706ms/step - loss: 0.3225 - categorical\_accuracy: 0.9964 - val\_loss: 0.8906 - val\_categorical\_accuracy: 0.7005 - lr: 0.0331

Epoch 185: LearningRateScheduler setting learning rate to 0.03257139763390925.

Epoch 185/300

26/26 [==============================] - ETA: 0s - loss: 0.3223 - categorical\_accuracy: 0.9964

Epoch 185: val\_categorical\_accuracy did not improve from 0.80469

Epoch 185: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 725ms/step - loss: 0.3223 - categorical\_accuracy: 0.9964 - val\_loss: 0.8847 - val\_categorical\_accuracy: 0.7188 - lr: 0.0326

Epoch 186: LearningRateScheduler setting learning rate to 0.032081602522735.

Epoch 186/300

26/26 [==============================] - ETA: 0s - loss: 0.3198 - categorical\_accuracy: 0.9970

Epoch 186: val\_categorical\_accuracy did not improve from 0.80469

Epoch 186: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 728ms/step - loss: 0.3198 - categorical\_accuracy: 0.9970 - val\_loss: 0.9177 - val\_categorical\_accuracy: 0.6641 - lr: 0.0321

Epoch 187: LearningRateScheduler setting learning rate to 0.03159377236576612.

Epoch 187/300

26/26 [==============================] - ETA: 0s - loss: 0.3174 - categorical\_accuracy: 0.9988

Epoch 187: val\_categorical\_accuracy did not improve from 0.80469

Epoch 187: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 716ms/step - loss: 0.3174 - categorical\_accuracy: 0.9988 - val\_loss: 0.8546 - val\_categorical\_accuracy: 0.6693 - lr: 0.0316

Epoch 188: LearningRateScheduler setting learning rate to 0.03110796065907664.

Epoch 188/300

26/26 [==============================] - ETA: 0s - loss: 0.3166 - categorical\_accuracy: 0.9988

Epoch 188: val\_categorical\_accuracy did not improve from 0.80469

Epoch 188: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 720ms/step - loss: 0.3166 - categorical\_accuracy: 0.9988 - val\_loss: 0.8181 - val\_categorical\_accuracy: 0.6979 - lr: 0.0311

Epoch 189: LearningRateScheduler setting learning rate to 0.030624220677394856.

Epoch 189/300

26/26 [==============================] - ETA: 0s - loss: 0.3143 - categorical\_accuracy: 0.9994

Epoch 189: val\_categorical\_accuracy did not improve from 0.80469

Epoch 189: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 712ms/step - loss: 0.3143 - categorical\_accuracy: 0.9994 - val\_loss: 0.7486 - val\_categorical\_accuracy: 0.7161 - lr: 0.0306

Epoch 190: LearningRateScheduler setting learning rate to 0.030142605468260964.

Epoch 190/300

26/26 [==============================] - ETA: 0s - loss: 0.3172 - categorical\_accuracy: 0.9982

Epoch 190: val\_categorical\_accuracy did not improve from 0.80469

Epoch 190: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 705ms/step - loss: 0.3172 - categorical\_accuracy: 0.9982 - val\_loss: 0.7905 - val\_categorical\_accuracy: 0.7161 - lr: 0.0301

Epoch 191: LearningRateScheduler setting learning rate to 0.029663167846209988.

Epoch 191/300

26/26 [==============================] - ETA: 0s - loss: 0.3188 - categorical\_accuracy: 0.9964

Epoch 191: val\_categorical\_accuracy did not improve from 0.80469

Epoch 191: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 723ms/step - loss: 0.3188 - categorical\_accuracy: 0.9964 - val\_loss: 0.8293 - val\_categorical\_accuracy: 0.6823 - lr: 0.0297

Epoch 192: LearningRateScheduler setting learning rate to 0.02918596038697995.

Epoch 192/300

26/26 [==============================] - ETA: 0s - loss: 0.3262 - categorical\_accuracy: 0.9946

Epoch 192: val\_categorical\_accuracy did not improve from 0.80469

Epoch 192: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 714ms/step - loss: 0.3262 - categorical\_accuracy: 0.9946 - val\_loss: 0.8870 - val\_categorical\_accuracy: 0.7083 - lr: 0.0292

Epoch 193: LearningRateScheduler setting learning rate to 0.02871103542174637.

Epoch 193/300

26/26 [==============================] - ETA: 0s - loss: 0.3234 - categorical\_accuracy: 0.9952

Epoch 193: val\_categorical\_accuracy did not improve from 0.80469

Epoch 193: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 707ms/step - loss: 0.3234 - categorical\_accuracy: 0.9952 - val\_loss: 0.9957 - val\_categorical\_accuracy: 0.6302 - lr: 0.0287

Epoch 194: LearningRateScheduler setting learning rate to 0.028238445031383633.

Epoch 194/300

26/26 [==============================] - ETA: 0s - loss: 0.3200 - categorical\_accuracy: 0.9970

Epoch 194: val\_categorical\_accuracy did not improve from 0.80469

Epoch 194: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 718ms/step - loss: 0.3200 - categorical\_accuracy: 0.9970 - val\_loss: 1.1320 - val\_categorical\_accuracy: 0.5234 - lr: 0.0282

Epoch 195: LearningRateScheduler setting learning rate to 0.02776824104075364.

Epoch 195/300

26/26 [==============================] - ETA: 0s - loss: 0.3196 - categorical\_accuracy: 0.9958

Epoch 195: val\_categorical\_accuracy did not improve from 0.80469

Epoch 195: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 23s 725ms/step - loss: 0.3196 - categorical\_accuracy: 0.9958 - val\_loss: 1.0035 - val\_categorical\_accuracy: 0.5964 - lr: 0.0278

Epoch 196: LearningRateScheduler setting learning rate to 0.027300475013022664.

Epoch 196/300

26/26 [==============================] - ETA: 0s - loss: 0.3184 - categorical\_accuracy: 0.9976

Epoch 196: val\_categorical\_accuracy did not improve from 0.80469

Epoch 196: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 726ms/step - loss: 0.3184 - categorical\_accuracy: 0.9976 - val\_loss: 0.9032 - val\_categorical\_accuracy: 0.7057 - lr: 0.0273

Epoch 197: LearningRateScheduler setting learning rate to 0.026835198244006927.

Epoch 197/300

26/26 [==============================] - ETA: 0s - loss: 0.3164 - categorical\_accuracy: 0.9988

Epoch 197: val\_categorical\_accuracy did not improve from 0.80469

Epoch 197: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 720ms/step - loss: 0.3164 - categorical\_accuracy: 0.9988 - val\_loss: 0.9560 - val\_categorical\_accuracy: 0.6589 - lr: 0.0268

Epoch 198: LearningRateScheduler setting learning rate to 0.026372461756547307.

Epoch 198/300

26/26 [==============================] - ETA: 0s - loss: 0.3156 - categorical\_accuracy: 0.9982

Epoch 198: val\_categorical\_accuracy did not improve from 0.80469

Epoch 198: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 730ms/step - loss: 0.3156 - categorical\_accuracy: 0.9982 - val\_loss: 1.0723 - val\_categorical\_accuracy: 0.6276 - lr: 0.0264

Epoch 199: LearningRateScheduler setting learning rate to 0.02591231629491423.

Epoch 199/300

26/26 [==============================] - ETA: 0s - loss: 0.3166 - categorical\_accuracy: 0.9970

Epoch 199: val\_categorical\_accuracy did not improve from 0.80469

Epoch 199: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 720ms/step - loss: 0.3166 - categorical\_accuracy: 0.9970 - val\_loss: 1.0195 - val\_categorical\_accuracy: 0.6484 - lr: 0.0259

Epoch 200: LearningRateScheduler setting learning rate to 0.02545481231924296.

Epoch 200/300

26/26 [==============================] - ETA: 0s - loss: 0.3199 - categorical\_accuracy: 0.9964

Epoch 200: val\_categorical\_accuracy did not improve from 0.80469

Epoch 200: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 702ms/step - loss: 0.3199 - categorical\_accuracy: 0.9964 - val\_loss: 1.1150 - val\_categorical\_accuracy: 0.5677 - lr: 0.0255

Epoch 201: LearningRateScheduler setting learning rate to 0.02499999999999999.

Epoch 201/300

26/26 [==============================] - ETA: 0s - loss: 0.3232 - categorical\_accuracy: 0.9946

Epoch 201: val\_categorical\_accuracy did not improve from 0.80469

Epoch 201: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 707ms/step - loss: 0.3232 - categorical\_accuracy: 0.9946 - val\_loss: 1.1013 - val\_categorical\_accuracy: 0.6120 - lr: 0.0250

Epoch 202: LearningRateScheduler setting learning rate to 0.024547929212481435.

Epoch 202/300

26/26 [==============================] - ETA: 0s - loss: 0.3184 - categorical\_accuracy: 0.9970

Epoch 202: val\_categorical\_accuracy did not improve from 0.80469

Epoch 202: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 718ms/step - loss: 0.3184 - categorical\_accuracy: 0.9970 - val\_loss: 1.0624 - val\_categorical\_accuracy: 0.6276 - lr: 0.0245

Epoch 203: LearningRateScheduler setting learning rate to 0.024098649531343497.

Epoch 203/300

26/26 [==============================] - ETA: 0s - loss: 0.3157 - categorical\_accuracy: 0.9982

Epoch 203: val\_categorical\_accuracy did not improve from 0.80469

Epoch 203: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 711ms/step - loss: 0.3157 - categorical\_accuracy: 0.9982 - val\_loss: 0.8668 - val\_categorical\_accuracy: 0.6458 - lr: 0.0241

Epoch 204: LearningRateScheduler setting learning rate to 0.023652210225166122.

Epoch 204/300

26/26 [==============================] - ETA: 0s - loss: 0.3165 - categorical\_accuracy: 0.9970

Epoch 204: val\_categorical\_accuracy did not improve from 0.80469

Epoch 204: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 726ms/step - loss: 0.3165 - categorical\_accuracy: 0.9970 - val\_loss: 1.0037 - val\_categorical\_accuracy: 0.6719 - lr: 0.0237

Epoch 205: LearningRateScheduler setting learning rate to 0.02320866025105018.

Epoch 205/300

26/26 [==============================] - ETA: 0s - loss: 0.3151 - categorical\_accuracy: 0.9970

Epoch 205: val\_categorical\_accuracy did not improve from 0.80469

Epoch 205: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 712ms/step - loss: 0.3151 - categorical\_accuracy: 0.9970 - val\_loss: 0.8813 - val\_categorical\_accuracy: 0.7318 - lr: 0.0232

Epoch 206: LearningRateScheduler setting learning rate to 0.022768048249248662.

Epoch 206/300

26/26 [==============================] - ETA: 0s - loss: 0.3140 - categorical\_accuracy: 0.9988

Epoch 206: val\_categorical\_accuracy did not improve from 0.80469

Epoch 206: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 727ms/step - loss: 0.3140 - categorical\_accuracy: 0.9988 - val\_loss: 0.9126 - val\_categorical\_accuracy: 0.7188 - lr: 0.0228

Epoch 207: LearningRateScheduler setting learning rate to 0.0223304225378328.

Epoch 207/300

26/26 [==============================] - ETA: 0s - loss: 0.3122 - categorical\_accuracy: 0.9988

Epoch 207: val\_categorical\_accuracy did not improve from 0.80469

Epoch 207: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 725ms/step - loss: 0.3122 - categorical\_accuracy: 0.9988 - val\_loss: 1.0028 - val\_categorical\_accuracy: 0.6901 - lr: 0.0223

Epoch 208: LearningRateScheduler setting learning rate to 0.021895831107393484.

Epoch 208/300

26/26 [==============================] - ETA: 0s - loss: 0.3145 - categorical\_accuracy: 0.9970

Epoch 208: val\_categorical\_accuracy did not improve from 0.80469

Epoch 208: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 709ms/step - loss: 0.3145 - categorical\_accuracy: 0.9970 - val\_loss: 1.0196 - val\_categorical\_accuracy: 0.6927 - lr: 0.0219

Epoch 209: LearningRateScheduler setting learning rate to 0.021464321615778423.

Epoch 209/300

26/26 [==============================] - ETA: 0s - loss: 0.3161 - categorical\_accuracy: 0.9958

Epoch 209: val\_categorical\_accuracy did not improve from 0.80469

Epoch 209: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 714ms/step - loss: 0.3161 - categorical\_accuracy: 0.9958 - val\_loss: 0.8103 - val\_categorical\_accuracy: 0.7422 - lr: 0.0215

Epoch 210: LearningRateScheduler setting learning rate to 0.021035941382866054.

Epoch 210/300

26/26 [==============================] - ETA: 0s - loss: 0.3178 - categorical\_accuracy: 0.9964

Epoch 210: val\_categorical\_accuracy did not improve from 0.80469

Epoch 210: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 724ms/step - loss: 0.3178 - categorical\_accuracy: 0.9964 - val\_loss: 0.8929 - val\_categorical\_accuracy: 0.7682 - lr: 0.0210

Epoch 211: LearningRateScheduler setting learning rate to 0.02061073738537635.

Epoch 211/300

26/26 [==============================] - ETA: 0s - loss: 0.3146 - categorical\_accuracy: 0.9982

Epoch 211: val\_categorical\_accuracy did not improve from 0.80469

Epoch 211: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 715ms/step - loss: 0.3146 - categorical\_accuracy: 0.9982 - val\_loss: 1.0690 - val\_categorical\_accuracy: 0.6068 - lr: 0.0206

Epoch 212: LearningRateScheduler setting learning rate to 0.020188756251719203.

Epoch 212/300

26/26 [==============================] - ETA: 0s - loss: 0.3144 - categorical\_accuracy: 0.9976

Epoch 212: val\_categorical\_accuracy did not improve from 0.80469

Epoch 212: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 723ms/step - loss: 0.3144 - categorical\_accuracy: 0.9976 - val\_loss: 0.9837 - val\_categorical\_accuracy: 0.6484 - lr: 0.0202

Epoch 213: LearningRateScheduler setting learning rate to 0.01977004425688126.

Epoch 213/300

26/26 [==============================] - ETA: 0s - loss: 0.3111 - categorical\_accuracy: 0.9994

Epoch 213: val\_categorical\_accuracy did not improve from 0.80469

Epoch 213: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 727ms/step - loss: 0.3111 - categorical\_accuracy: 0.9994 - val\_loss: 0.9580 - val\_categorical\_accuracy: 0.6641 - lr: 0.0198

Epoch 214: LearningRateScheduler setting learning rate to 0.01935464731735119.

Epoch 214/300

26/26 [==============================] - ETA: 0s - loss: 0.3148 - categorical\_accuracy: 0.9970

Epoch 214: val\_categorical\_accuracy did not improve from 0.80469

Epoch 214: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 710ms/step - loss: 0.3148 - categorical\_accuracy: 0.9970 - val\_loss: 1.0353 - val\_categorical\_accuracy: 0.6406 - lr: 0.0194

Epoch 215: LearningRateScheduler setting learning rate to 0.018942610986084487.

Epoch 215/300

26/26 [==============================] - ETA: 0s - loss: 0.3134 - categorical\_accuracy: 0.9976

Epoch 215: val\_categorical\_accuracy did not improve from 0.80469

Epoch 215: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 712ms/step - loss: 0.3134 - categorical\_accuracy: 0.9976 - val\_loss: 0.9013 - val\_categorical\_accuracy: 0.7109 - lr: 0.0189

Epoch 216: LearningRateScheduler setting learning rate to 0.018533980447508137.

Epoch 216/300

26/26 [==============================] - ETA: 0s - loss: 0.3143 - categorical\_accuracy: 0.9982

Epoch 216: val\_categorical\_accuracy did not improve from 0.80469

Epoch 216: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 711ms/step - loss: 0.3143 - categorical\_accuracy: 0.9982 - val\_loss: 0.8472 - val\_categorical\_accuracy: 0.7500 - lr: 0.0185

Epoch 217: LearningRateScheduler setting learning rate to 0.018128800512565515.

Epoch 217/300

26/26 [==============================] - ETA: 0s - loss: 0.3128 - categorical\_accuracy: 0.9994

Epoch 217: val\_categorical\_accuracy did not improve from 0.80469

Epoch 217: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 720ms/step - loss: 0.3128 - categorical\_accuracy: 0.9994 - val\_loss: 0.9117 - val\_categorical\_accuracy: 0.7135 - lr: 0.0181

Epoch 218: LearningRateScheduler setting learning rate to 0.01772711561380248.

Epoch 218/300

26/26 [==============================] - ETA: 0s - loss: 0.3116 - categorical\_accuracy: 0.9976

Epoch 218: val\_categorical\_accuracy did not improve from 0.80469

Epoch 218: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 727ms/step - loss: 0.3116 - categorical\_accuracy: 0.9976 - val\_loss: 0.8664 - val\_categorical\_accuracy: 0.7318 - lr: 0.0177

Epoch 219: LearningRateScheduler setting learning rate to 0.017328969800494743.

Epoch 219/300

26/26 [==============================] - ETA: 0s - loss: 0.3099 - categorical\_accuracy: 1.0000

Epoch 219: val\_categorical\_accuracy did not improve from 0.80469

Epoch 219: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 713ms/step - loss: 0.3099 - categorical\_accuracy: 1.0000 - val\_loss: 0.8421 - val\_categorical\_accuracy: 0.7552 - lr: 0.0173

Epoch 220: LearningRateScheduler setting learning rate to 0.0169344067338174.

Epoch 220/300

26/26 [==============================] - ETA: 0s - loss: 0.3107 - categorical\_accuracy: 0.9976

Epoch 220: val\_categorical\_accuracy did not improve from 0.80469

Epoch 220: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 708ms/step - loss: 0.3107 - categorical\_accuracy: 0.9976 - val\_loss: 0.8812 - val\_categorical\_accuracy: 0.7630 - lr: 0.0169

Epoch 221: LearningRateScheduler setting learning rate to 0.01654346968205709.

Epoch 221/300

26/26 [==============================] - ETA: 0s - loss: 0.3123 - categorical\_accuracy: 0.9982

Epoch 221: val\_categorical\_accuracy did not improve from 0.80469

Epoch 221: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 722ms/step - loss: 0.3123 - categorical\_accuracy: 0.9982 - val\_loss: 0.9041 - val\_categorical\_accuracy: 0.6771 - lr: 0.0165

Epoch 222: LearningRateScheduler setting learning rate to 0.01615620151586697.

Epoch 222/300

26/26 [==============================] - ETA: 0s - loss: 0.3174 - categorical\_accuracy: 0.9952

Epoch 222: val\_categorical\_accuracy did not improve from 0.80469

Epoch 222: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 718ms/step - loss: 0.3174 - categorical\_accuracy: 0.9952 - val\_loss: 0.8752 - val\_categorical\_accuracy: 0.7656 - lr: 0.0162

Epoch 223: LearningRateScheduler setting learning rate to 0.015772644703565566.

Epoch 223/300

26/26 [==============================] - ETA: 0s - loss: 0.3148 - categorical\_accuracy: 0.9958

Epoch 223: val\_categorical\_accuracy did not improve from 0.80469

Epoch 223: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 715ms/step - loss: 0.3148 - categorical\_accuracy: 0.9958 - val\_loss: 1.0310 - val\_categorical\_accuracy: 0.6536 - lr: 0.0158

Epoch 224: LearningRateScheduler setting learning rate to 0.015392841306479665.

Epoch 224/300

26/26 [==============================] - ETA: 0s - loss: 0.3155 - categorical\_accuracy: 0.9970

Epoch 224: val\_categorical\_accuracy did not improve from 0.80469

Epoch 224: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 718ms/step - loss: 0.3155 - categorical\_accuracy: 0.9970 - val\_loss: 0.9201 - val\_categorical\_accuracy: 0.7708 - lr: 0.0154

Epoch 225: LearningRateScheduler setting learning rate to 0.015016832974331724.

Epoch 225/300

26/26 [==============================] - ETA: 0s - loss: 0.3145 - categorical\_accuracy: 0.9976

Epoch 225: val\_categorical\_accuracy did not improve from 0.80469

Epoch 225: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 23s 733ms/step - loss: 0.3145 - categorical\_accuracy: 0.9976 - val\_loss: 0.9412 - val\_categorical\_accuracy: 0.7370 - lr: 0.0150

Epoch 226: LearningRateScheduler setting learning rate to 0.014644660940672627.

Epoch 226/300

26/26 [==============================] - ETA: 0s - loss: 0.3137 - categorical\_accuracy: 0.9976

Epoch 226: val\_categorical\_accuracy did not improve from 0.80469

Epoch 226: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 713ms/step - loss: 0.3137 - categorical\_accuracy: 0.9976 - val\_loss: 0.9670 - val\_categorical\_accuracy: 0.7135 - lr: 0.0146

Epoch 227: LearningRateScheduler setting learning rate to 0.014276366018359844.

Epoch 227/300

26/26 [==============================] - ETA: 0s - loss: 0.3120 - categorical\_accuracy: 0.9988

Epoch 227: val\_categorical\_accuracy did not improve from 0.80469

Epoch 227: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 717ms/step - loss: 0.3120 - categorical\_accuracy: 0.9988 - val\_loss: 0.9009 - val\_categorical\_accuracy: 0.6979 - lr: 0.0143

Epoch 228: LearningRateScheduler setting learning rate to 0.013911988595081894.

Epoch 228/300

26/26 [==============================] - ETA: 0s - loss: 0.3139 - categorical\_accuracy: 0.9958

Epoch 228: val\_categorical\_accuracy did not improve from 0.80469

Epoch 228: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 725ms/step - loss: 0.3139 - categorical\_accuracy: 0.9958 - val\_loss: 1.1015 - val\_categorical\_accuracy: 0.6068 - lr: 0.0139

Epoch 229: LearningRateScheduler setting learning rate to 0.013551568628929435.

Epoch 229/300

26/26 [==============================] - ETA: 0s - loss: 0.3140 - categorical\_accuracy: 0.9952

Epoch 229: val\_categorical\_accuracy did not improve from 0.80469

Epoch 229: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 716ms/step - loss: 0.3140 - categorical\_accuracy: 0.9952 - val\_loss: 1.0075 - val\_categorical\_accuracy: 0.6667 - lr: 0.0136

Epoch 230: LearningRateScheduler setting learning rate to 0.013195145644013301.

Epoch 230/300

26/26 [==============================] - ETA: 0s - loss: 0.3152 - categorical\_accuracy: 0.9976

Epoch 230: val\_categorical\_accuracy did not improve from 0.80469

Epoch 230: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 20s 693ms/step - loss: 0.3152 - categorical\_accuracy: 0.9976 - val\_loss: 0.9539 - val\_categorical\_accuracy: 0.6953 - lr: 0.0132

Epoch 231: LearningRateScheduler setting learning rate to 0.012842758726130284.

Epoch 231/300

26/26 [==============================] - ETA: 0s - loss: 0.3123 - categorical\_accuracy: 0.9982

Epoch 231: val\_categorical\_accuracy did not improve from 0.80469

Epoch 231: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 724ms/step - loss: 0.3123 - categorical\_accuracy: 0.9982 - val\_loss: 0.9232 - val\_categorical\_accuracy: 0.7135 - lr: 0.0128

Epoch 232: LearningRateScheduler setting learning rate to 0.012494446518477021.

Epoch 232/300

26/26 [==============================] - ETA: 0s - loss: 0.3107 - categorical\_accuracy: 0.9982

Epoch 232: val\_categorical\_accuracy did not improve from 0.80469

Epoch 232: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 728ms/step - loss: 0.3107 - categorical\_accuracy: 0.9982 - val\_loss: 0.8942 - val\_categorical\_accuracy: 0.7370 - lr: 0.0125

Epoch 233: LearningRateScheduler setting learning rate to 0.012150247217412187.

Epoch 233/300

26/26 [==============================] - ETA: 0s - loss: 0.3118 - categorical\_accuracy: 0.9970

Epoch 233: val\_categorical\_accuracy did not improve from 0.80469

Epoch 233: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 712ms/step - loss: 0.3118 - categorical\_accuracy: 0.9970 - val\_loss: 0.9136 - val\_categorical\_accuracy: 0.7109 - lr: 0.0122

Epoch 234: LearningRateScheduler setting learning rate to 0.011810198568267889.

Epoch 234/300

26/26 [==============================] - ETA: 0s - loss: 0.3130 - categorical\_accuracy: 0.9970

Epoch 234: val\_categorical\_accuracy did not improve from 0.80469

Epoch 234: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 708ms/step - loss: 0.3130 - categorical\_accuracy: 0.9970 - val\_loss: 0.9202 - val\_categorical\_accuracy: 0.7214 - lr: 0.0118

Epoch 235: LearningRateScheduler setting learning rate to 0.011474337861210543.

Epoch 235/300

26/26 [==============================] - ETA: 0s - loss: 0.3086 - categorical\_accuracy: 0.9994

Epoch 235: val\_categorical\_accuracy did not improve from 0.80469

Epoch 235: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 712ms/step - loss: 0.3086 - categorical\_accuracy: 0.9994 - val\_loss: 0.9327 - val\_categorical\_accuracy: 0.7318 - lr: 0.0115

Epoch 236: LearningRateScheduler setting learning rate to 0.011142701927151456.

Epoch 236/300

26/26 [==============================] - ETA: 0s - loss: 0.3083 - categorical\_accuracy: 0.9988

Epoch 236: val\_categorical\_accuracy did not improve from 0.80469

Epoch 236: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 716ms/step - loss: 0.3083 - categorical\_accuracy: 0.9988 - val\_loss: 0.9053 - val\_categorical\_accuracy: 0.6953 - lr: 0.0111

Epoch 237: LearningRateScheduler setting learning rate to 0.010815327133708015.

Epoch 237/300

26/26 [==============================] - ETA: 0s - loss: 0.3085 - categorical\_accuracy: 0.9994

Epoch 237: val\_categorical\_accuracy did not improve from 0.80469

Epoch 237: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 715ms/step - loss: 0.3085 - categorical\_accuracy: 0.9994 - val\_loss: 0.9076 - val\_categorical\_accuracy: 0.6849 - lr: 0.0108

Epoch 238: LearningRateScheduler setting learning rate to 0.010492249381215492.

Epoch 238/300

26/26 [==============================] - ETA: 0s - loss: 0.3133 - categorical\_accuracy: 0.9964

Epoch 238: val\_categorical\_accuracy did not improve from 0.80469

Epoch 238: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 709ms/step - loss: 0.3133 - categorical\_accuracy: 0.9964 - val\_loss: 0.9283 - val\_categorical\_accuracy: 0.6823 - lr: 0.0105

Epoch 239: LearningRateScheduler setting learning rate to 0.010173504098790188.

Epoch 239/300

26/26 [==============================] - ETA: 0s - loss: 0.3097 - categorical\_accuracy: 0.9982

Epoch 239: val\_categorical\_accuracy did not improve from 0.80469

Epoch 239: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 707ms/step - loss: 0.3097 - categorical\_accuracy: 0.9982 - val\_loss: 0.9557 - val\_categorical\_accuracy: 0.7005 - lr: 0.0102

Epoch 240: LearningRateScheduler setting learning rate to 0.009859126240444284.

Epoch 240/300

26/26 [==============================] - ETA: 0s - loss: 0.3092 - categorical\_accuracy: 0.9988

Epoch 240: val\_categorical\_accuracy did not improve from 0.80469

Epoch 240: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 719ms/step - loss: 0.3092 - categorical\_accuracy: 0.9988 - val\_loss: 0.9260 - val\_categorical\_accuracy: 0.7161 - lr: 0.0099

Epoch 241: LearningRateScheduler setting learning rate to 0.009549150281252633.

Epoch 241/300

26/26 [==============================] - ETA: 0s - loss: 0.3137 - categorical\_accuracy: 0.9976

Epoch 241: val\_categorical\_accuracy did not improve from 0.80469

Epoch 241: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 719ms/step - loss: 0.3137 - categorical\_accuracy: 0.9976 - val\_loss: 0.8804 - val\_categorical\_accuracy: 0.6979 - lr: 0.0095

Epoch 242: LearningRateScheduler setting learning rate to 0.009243610213572284.

Epoch 242/300

26/26 [==============================] - ETA: 0s - loss: 0.3080 - categorical\_accuracy: 0.9988

Epoch 242: val\_categorical\_accuracy did not improve from 0.80469

Epoch 242: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 725ms/step - loss: 0.3080 - categorical\_accuracy: 0.9988 - val\_loss: 0.8707 - val\_categorical\_accuracy: 0.6901 - lr: 0.0092

Epoch 243: LearningRateScheduler setting learning rate to 0.008942539543314799.

Epoch 243/300

26/26 [==============================] - ETA: 0s - loss: 0.3098 - categorical\_accuracy: 0.9982

Epoch 243: val\_categorical\_accuracy did not improve from 0.80469

Epoch 243: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 715ms/step - loss: 0.3098 - categorical\_accuracy: 0.9982 - val\_loss: 0.9253 - val\_categorical\_accuracy: 0.6823 - lr: 0.0089

Epoch 244: LearningRateScheduler setting learning rate to 0.008645971286271903.

Epoch 244/300

26/26 [==============================] - ETA: 0s - loss: 0.3092 - categorical\_accuracy: 0.9994

Epoch 244: val\_categorical\_accuracy did not improve from 0.80469

Epoch 244: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 722ms/step - loss: 0.3092 - categorical\_accuracy: 0.9994 - val\_loss: 0.9281 - val\_categorical\_accuracy: 0.7396 - lr: 0.0086

Epoch 245: LearningRateScheduler setting learning rate to 0.00835393796449503.

Epoch 245/300

26/26 [==============================] - ETA: 0s - loss: 0.3070 - categorical\_accuracy: 1.0000

Epoch 245: val\_categorical\_accuracy did not improve from 0.80469

Epoch 245: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 726ms/step - loss: 0.3070 - categorical\_accuracy: 1.0000 - val\_loss: 0.9363 - val\_categorical\_accuracy: 0.7318 - lr: 0.0084

Epoch 246: LearningRateScheduler setting learning rate to 0.008066471602728803.

Epoch 246/300

26/26 [==============================] - ETA: 0s - loss: 0.3090 - categorical\_accuracy: 0.9982

Epoch 246: val\_categorical\_accuracy did not improve from 0.80469

Epoch 246: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 732ms/step - loss: 0.3090 - categorical\_accuracy: 0.9982 - val\_loss: 0.8931 - val\_categorical\_accuracy: 0.7292 - lr: 0.0081

Epoch 247: LearningRateScheduler setting learning rate to 0.007783603724899247.

Epoch 247/300

26/26 [==============================] - ETA: 0s - loss: 0.3084 - categorical\_accuracy: 0.9988

Epoch 247: val\_categorical\_accuracy did not improve from 0.80469

Epoch 247: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 722ms/step - loss: 0.3084 - categorical\_accuracy: 0.9988 - val\_loss: 0.9578 - val\_categorical\_accuracy: 0.7005 - lr: 0.0078

Epoch 248: LearningRateScheduler setting learning rate to 0.007505365350656813.

Epoch 248/300

26/26 [==============================] - ETA: 0s - loss: 0.3086 - categorical\_accuracy: 0.9994

Epoch 248: val\_categorical\_accuracy did not improve from 0.80469

Epoch 248: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 709ms/step - loss: 0.3086 - categorical\_accuracy: 0.9994 - val\_loss: 0.9498 - val\_categorical\_accuracy: 0.6927 - lr: 0.0075

Epoch 249: LearningRateScheduler setting learning rate to 0.00723178699197467.

Epoch 249/300

26/26 [==============================] - ETA: 0s - loss: 0.3075 - categorical\_accuracy: 0.9994

Epoch 249: val\_categorical\_accuracy did not improve from 0.80469

Epoch 249: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 723ms/step - loss: 0.3075 - categorical\_accuracy: 0.9994 - val\_loss: 0.9536 - val\_categorical\_accuracy: 0.6771 - lr: 0.0072

Epoch 250: LearningRateScheduler setting learning rate to 0.006962898649802824.

Epoch 250/300

26/26 [==============================] - ETA: 0s - loss: 0.3108 - categorical\_accuracy: 0.9976

Epoch 250: val\_categorical\_accuracy did not improve from 0.80469

Epoch 250: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 709ms/step - loss: 0.3108 - categorical\_accuracy: 0.9976 - val\_loss: 0.9108 - val\_categorical\_accuracy: 0.6745 - lr: 0.0070

Epoch 251: LearningRateScheduler setting learning rate to 0.006698729810778076.

Epoch 251/300

26/26 [==============================] - ETA: 0s - loss: 0.3102 - categorical\_accuracy: 0.9976

Epoch 251: val\_categorical\_accuracy did not improve from 0.80469

Epoch 251: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 725ms/step - loss: 0.3102 - categorical\_accuracy: 0.9976 - val\_loss: 0.9304 - val\_categorical\_accuracy: 0.6641 - lr: 0.0067

Epoch 252: LearningRateScheduler setting learning rate to 0.006439309443990521.

Epoch 252/300

26/26 [==============================] - ETA: 0s - loss: 0.3074 - categorical\_accuracy: 0.9994

Epoch 252: val\_categorical\_accuracy did not improve from 0.80469

Epoch 252: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 711ms/step - loss: 0.3074 - categorical\_accuracy: 0.9994 - val\_loss: 0.9777 - val\_categorical\_accuracy: 0.6615 - lr: 0.0064

Epoch 253: LearningRateScheduler setting learning rate to 0.006184665997806821.

Epoch 253/300

26/26 [==============================] - ETA: 0s - loss: 0.3102 - categorical\_accuracy: 0.9982

Epoch 253: val\_categorical\_accuracy did not improve from 0.80469

Epoch 253: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 704ms/step - loss: 0.3102 - categorical\_accuracy: 0.9982 - val\_loss: 0.9308 - val\_categorical\_accuracy: 0.6693 - lr: 0.0062

Epoch 254: LearningRateScheduler setting learning rate to 0.005934827396750392.

Epoch 254/300

26/26 [==============================] - ETA: 0s - loss: 0.3085 - categorical\_accuracy: 0.9988

Epoch 254: val\_categorical\_accuracy did not improve from 0.80469

Epoch 254: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 23s 732ms/step - loss: 0.3085 - categorical\_accuracy: 0.9988 - val\_loss: 0.8978 - val\_categorical\_accuracy: 0.7057 - lr: 0.0059

Epoch 255: LearningRateScheduler setting learning rate to 0.005689821038439263.

Epoch 255/300

26/26 [==============================] - ETA: 0s - loss: 0.3071 - categorical\_accuracy: 0.9988

Epoch 255: val\_categorical\_accuracy did not improve from 0.80469

Epoch 255: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 712ms/step - loss: 0.3071 - categorical\_accuracy: 0.9988 - val\_loss: 0.9204 - val\_categorical\_accuracy: 0.7031 - lr: 0.0057

Epoch 256: LearningRateScheduler setting learning rate to 0.005449673790581611.

Epoch 256/300

26/26 [==============================] - ETA: 0s - loss: 0.3068 - categorical\_accuracy: 1.0000

Epoch 256: val\_categorical\_accuracy did not improve from 0.80469

Epoch 256: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 719ms/step - loss: 0.3068 - categorical\_accuracy: 1.0000 - val\_loss: 0.9656 - val\_categorical\_accuracy: 0.6979 - lr: 0.0054

Epoch 257: LearningRateScheduler setting learning rate to 0.005214411988029366.

Epoch 257/300

26/26 [==============================] - ETA: 0s - loss: 0.3085 - categorical\_accuracy: 0.9982

Epoch 257: val\_categorical\_accuracy did not improve from 0.80469

Epoch 257: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 23s 794ms/step - loss: 0.3085 - categorical\_accuracy: 0.9982 - val\_loss: 0.9322 - val\_categorical\_accuracy: 0.6875 - lr: 0.0052

Epoch 258: LearningRateScheduler setting learning rate to 0.004984061429890324.

Epoch 258/300

26/26 [==============================] - ETA: 0s - loss: 0.3074 - categorical\_accuracy: 0.9994

Epoch 258: val\_categorical\_accuracy did not improve from 0.80469

Epoch 258: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 722ms/step - loss: 0.3074 - categorical\_accuracy: 0.9994 - val\_loss: 0.9317 - val\_categorical\_accuracy: 0.6953 - lr: 0.0050

Epoch 259: LearningRateScheduler setting learning rate to 0.004758647376699033.

Epoch 259/300

26/26 [==============================] - ETA: 0s - loss: 0.3100 - categorical\_accuracy: 0.9988

Epoch 259: val\_categorical\_accuracy did not improve from 0.80469

Epoch 259: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 720ms/step - loss: 0.3100 - categorical\_accuracy: 0.9988 - val\_loss: 0.9393 - val\_categorical\_accuracy: 0.6875 - lr: 0.0048

Epoch 260: LearningRateScheduler setting learning rate to 0.004538194547646574.

Epoch 260/300

26/26 [==============================] - ETA: 0s - loss: 0.3077 - categorical\_accuracy: 0.9994

Epoch 260: val\_categorical\_accuracy did not improve from 0.80469

Epoch 260: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 705ms/step - loss: 0.3077 - categorical\_accuracy: 0.9994 - val\_loss: 0.9509 - val\_categorical\_accuracy: 0.6849 - lr: 0.0045

Epoch 261: LearningRateScheduler setting learning rate to 0.004322727117869962.

Epoch 261/300

26/26 [==============================] - ETA: 0s - loss: 0.3068 - categorical\_accuracy: 0.9988

Epoch 261: val\_categorical\_accuracy did not improve from 0.80469

Epoch 261: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 737ms/step - loss: 0.3068 - categorical\_accuracy: 0.9988 - val\_loss: 0.9741 - val\_categorical\_accuracy: 0.7031 - lr: 0.0043

Epoch 262: LearningRateScheduler setting learning rate to 0.004112268715800955.

Epoch 262/300

26/26 [==============================] - ETA: 0s - loss: 0.3076 - categorical\_accuracy: 0.9994

Epoch 262: val\_categorical\_accuracy did not improve from 0.80469

Epoch 262: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 728ms/step - loss: 0.3076 - categorical\_accuracy: 0.9994 - val\_loss: 0.9618 - val\_categorical\_accuracy: 0.6823 - lr: 0.0041

Epoch 263: LearningRateScheduler setting learning rate to 0.003906842420574969.

Epoch 263/300

26/26 [==============================] - ETA: 0s - loss: 0.3060 - categorical\_accuracy: 1.0000

Epoch 263: val\_categorical\_accuracy did not improve from 0.80469

Epoch 263: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 726ms/step - loss: 0.3060 - categorical\_accuracy: 1.0000 - val\_loss: 0.9509 - val\_categorical\_accuracy: 0.6875 - lr: 0.0039

Epoch 264: LearningRateScheduler setting learning rate to 0.0037064707595002634.

Epoch 264/300

26/26 [==============================] - ETA: 0s - loss: 0.3069 - categorical\_accuracy: 0.9994

Epoch 264: val\_categorical\_accuracy did not improve from 0.80469

Epoch 264: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 705ms/step - loss: 0.3069 - categorical\_accuracy: 0.9994 - val\_loss: 0.9534 - val\_categorical\_accuracy: 0.6849 - lr: 0.0037

Epoch 265: LearningRateScheduler setting learning rate to 0.0035111757055874327.

Epoch 265/300

26/26 [==============================] - ETA: 0s - loss: 0.3062 - categorical\_accuracy: 1.0000

Epoch 265: val\_categorical\_accuracy did not improve from 0.80469

Epoch 265: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 729ms/step - loss: 0.3062 - categorical\_accuracy: 1.0000 - val\_loss: 0.9453 - val\_categorical\_accuracy: 0.6849 - lr: 0.0035

Epoch 266: LearningRateScheduler setting learning rate to 0.003320978675139913.

Epoch 266/300

26/26 [==============================] - ETA: 0s - loss: 0.3059 - categorical\_accuracy: 1.0000

Epoch 266: val\_categorical\_accuracy did not improve from 0.80469

Epoch 266: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 708ms/step - loss: 0.3059 - categorical\_accuracy: 1.0000 - val\_loss: 0.9548 - val\_categorical\_accuracy: 0.6875 - lr: 0.0033

Epoch 267: LearningRateScheduler setting learning rate to 0.0031359005254054276.

Epoch 267/300

26/26 [==============================] - ETA: 0s - loss: 0.3083 - categorical\_accuracy: 0.9982

Epoch 267: val\_categorical\_accuracy did not improve from 0.80469

Epoch 267: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 742ms/step - loss: 0.3083 - categorical\_accuracy: 0.9982 - val\_loss: 0.9336 - val\_categorical\_accuracy: 0.6979 - lr: 0.0031

Epoch 268: LearningRateScheduler setting learning rate to 0.0029559615522887273.

Epoch 268/300

26/26 [==============================] - ETA: 0s - loss: 0.3074 - categorical\_accuracy: 0.9982

Epoch 268: val\_categorical\_accuracy did not improve from 0.80469

Epoch 268: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 716ms/step - loss: 0.3074 - categorical\_accuracy: 0.9982 - val\_loss: 0.9465 - val\_categorical\_accuracy: 0.6823 - lr: 0.0030

Epoch 269: LearningRateScheduler setting learning rate to 0.00278118148812595.

Epoch 269/300

26/26 [==============================] - ETA: 0s - loss: 0.3061 - categorical\_accuracy: 0.9994

Epoch 269: val\_categorical\_accuracy did not improve from 0.80469

Epoch 269: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 719ms/step - loss: 0.3061 - categorical\_accuracy: 0.9994 - val\_loss: 0.9575 - val\_categorical\_accuracy: 0.6849 - lr: 0.0028

Epoch 270: LearningRateScheduler setting learning rate to 0.0026115794995207223.

Epoch 270/300

26/26 [==============================] - ETA: 0s - loss: 0.3067 - categorical\_accuracy: 0.9994

Epoch 270: val\_categorical\_accuracy did not improve from 0.80469

Epoch 270: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 721ms/step - loss: 0.3067 - categorical\_accuracy: 0.9994 - val\_loss: 0.9952 - val\_categorical\_accuracy: 0.6797 - lr: 0.0026

Epoch 271: LearningRateScheduler setting learning rate to 0.0024471741852423235.

Epoch 271/300

26/26 [==============================] - ETA: 0s - loss: 0.3071 - categorical\_accuracy: 0.9988

Epoch 271: val\_categorical\_accuracy did not improve from 0.80469

Epoch 271: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 722ms/step - loss: 0.3071 - categorical\_accuracy: 0.9988 - val\_loss: 0.9851 - val\_categorical\_accuracy: 0.6875 - lr: 0.0024

Epoch 272: LearningRateScheduler setting learning rate to 0.0022879835741861586.

Epoch 272/300

26/26 [==============================] - ETA: 0s - loss: 0.3079 - categorical\_accuracy: 0.9982

Epoch 272: val\_categorical\_accuracy did not improve from 0.80469

Epoch 272: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 718ms/step - loss: 0.3079 - categorical\_accuracy: 0.9982 - val\_loss: 0.9525 - val\_categorical\_accuracy: 0.6771 - lr: 0.0023

Epoch 273: LearningRateScheduler setting learning rate to 0.002134025123396638.

Epoch 273/300

26/26 [==============================] - ETA: 0s - loss: 0.3084 - categorical\_accuracy: 0.9994

Epoch 273: val\_categorical\_accuracy did not improve from 0.80469

Epoch 273: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 711ms/step - loss: 0.3084 - categorical\_accuracy: 0.9994 - val\_loss: 0.9678 - val\_categorical\_accuracy: 0.6745 - lr: 0.0021

Epoch 274: LearningRateScheduler setting learning rate to 0.0019853157161528467.

Epoch 274/300

26/26 [==============================] - ETA: 0s - loss: 0.3062 - categorical\_accuracy: 0.9988

Epoch 274: val\_categorical\_accuracy did not improve from 0.80469

Epoch 274: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 709ms/step - loss: 0.3062 - categorical\_accuracy: 0.9988 - val\_loss: 0.9726 - val\_categorical\_accuracy: 0.6719 - lr: 0.0020

Epoch 275: LearningRateScheduler setting learning rate to 0.0018418716601170948.

Epoch 275/300

26/26 [==============================] - ETA: 0s - loss: 0.3074 - categorical\_accuracy: 0.9988

Epoch 275: val\_categorical\_accuracy did not improve from 0.80469

Epoch 275: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 24s 796ms/step - loss: 0.3074 - categorical\_accuracy: 0.9988 - val\_loss: 0.9704 - val\_categorical\_accuracy: 0.6667 - lr: 0.0018

Epoch 276: LearningRateScheduler setting learning rate to 0.0017037086855465845.

Epoch 276/300

26/26 [==============================] - ETA: 0s - loss: 0.3059 - categorical\_accuracy: 0.9994

Epoch 276: val\_categorical\_accuracy did not improve from 0.80469

Epoch 276: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 710ms/step - loss: 0.3059 - categorical\_accuracy: 0.9994 - val\_loss: 0.9628 - val\_categorical\_accuracy: 0.6719 - lr: 0.0017

Epoch 277: LearningRateScheduler setting learning rate to 0.0015708419435684464.

Epoch 277/300

26/26 [==============================] - ETA: 0s - loss: 0.3074 - categorical\_accuracy: 0.9988

Epoch 277: val\_categorical\_accuracy did not improve from 0.80469

Epoch 277: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 23s 724ms/step - loss: 0.3074 - categorical\_accuracy: 0.9988 - val\_loss: 0.9551 - val\_categorical\_accuracy: 0.6719 - lr: 0.0016

Epoch 278: LearningRateScheduler setting learning rate to 0.0014432860045182018.

Epoch 278/300

26/26 [==============================] - ETA: 0s - loss: 0.3081 - categorical\_accuracy: 0.9988

Epoch 278: val\_categorical\_accuracy did not improve from 0.80469

Epoch 278: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 734ms/step - loss: 0.3081 - categorical\_accuracy: 0.9988 - val\_loss: 0.9421 - val\_categorical\_accuracy: 0.6693 - lr: 0.0014

Epoch 279: LearningRateScheduler setting learning rate to 0.0013210548563419855.

Epoch 279/300

26/26 [==============================] - ETA: 0s - loss: 0.3068 - categorical\_accuracy: 1.0000

Epoch 279: val\_categorical\_accuracy did not improve from 0.80469

Epoch 279: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 715ms/step - loss: 0.3068 - categorical\_accuracy: 1.0000 - val\_loss: 0.9386 - val\_categorical\_accuracy: 0.6771 - lr: 0.0013

Epoch 280: LearningRateScheduler setting learning rate to 0.0012041619030626338.

Epoch 280/300

26/26 [==============================] - ETA: 0s - loss: 0.3078 - categorical\_accuracy: 0.9982

Epoch 280: val\_categorical\_accuracy did not improve from 0.80469

Epoch 280: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 724ms/step - loss: 0.3078 - categorical\_accuracy: 0.9982 - val\_loss: 0.9513 - val\_categorical\_accuracy: 0.6719 - lr: 0.0012

Epoch 281: LearningRateScheduler setting learning rate to 0.0010926199633097212.

Epoch 281/300

26/26 [==============================] - ETA: 0s - loss: 0.3073 - categorical\_accuracy: 0.9994

Epoch 281: val\_categorical\_accuracy did not improve from 0.80469

Epoch 281: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 719ms/step - loss: 0.3073 - categorical\_accuracy: 0.9994 - val\_loss: 0.9560 - val\_categorical\_accuracy: 0.6745 - lr: 0.0011

Epoch 282: LearningRateScheduler setting learning rate to 0.001.

Epoch 282/300

26/26 [==============================] - ETA: 0s - loss: 0.3057 - categorical\_accuracy: 1.0000

Epoch 282: val\_categorical\_accuracy did not improve from 0.80469

Epoch 282: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 728ms/step - loss: 0.3057 - categorical\_accuracy: 1.0000 - val\_loss: 0.9757 - val\_categorical\_accuracy: 0.6797 - lr: 0.0010

Epoch 283: LearningRateScheduler setting learning rate to 0.001.

Epoch 283/300

26/26 [==============================] - ETA: 0s - loss: 0.3061 - categorical\_accuracy: 1.0000

Epoch 283: val\_categorical\_accuracy did not improve from 0.80469

Epoch 283: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 716ms/step - loss: 0.3061 - categorical\_accuracy: 1.0000 - val\_loss: 0.9771 - val\_categorical\_accuracy: 0.6745 - lr: 0.0010

Epoch 284: LearningRateScheduler setting learning rate to 0.001.

Epoch 284/300

26/26 [==============================] - ETA: 0s - loss: 0.3062 - categorical\_accuracy: 1.0000

Epoch 284: val\_categorical\_accuracy did not improve from 0.80469

Epoch 284: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 23s 713ms/step - loss: 0.3062 - categorical\_accuracy: 1.0000 - val\_loss: 0.9757 - val\_categorical\_accuracy: 0.6719 - lr: 0.0010

Epoch 285: LearningRateScheduler setting learning rate to 0.001.

Epoch 285/300

26/26 [==============================] - ETA: 0s - loss: 0.3059 - categorical\_accuracy: 1.0000

Epoch 285: val\_categorical\_accuracy did not improve from 0.80469

Epoch 285: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 718ms/step - loss: 0.3059 - categorical\_accuracy: 1.0000 - val\_loss: 0.9781 - val\_categorical\_accuracy: 0.6745 - lr: 0.0010

Epoch 286: LearningRateScheduler setting learning rate to 0.001.

Epoch 286/300

26/26 [==============================] - ETA: 0s - loss: 0.3074 - categorical\_accuracy: 0.9994

Epoch 286: val\_categorical\_accuracy did not improve from 0.80469

Epoch 286: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 717ms/step - loss: 0.3074 - categorical\_accuracy: 0.9994 - val\_loss: 0.9784 - val\_categorical\_accuracy: 0.6745 - lr: 0.0010

Epoch 287: LearningRateScheduler setting learning rate to 0.001.

Epoch 287/300

26/26 [==============================] - ETA: 0s - loss: 0.3113 - categorical\_accuracy: 0.9964

Epoch 287: val\_categorical\_accuracy did not improve from 0.80469

Epoch 287: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 724ms/step - loss: 0.3113 - categorical\_accuracy: 0.9964 - val\_loss: 0.9719 - val\_categorical\_accuracy: 0.6693 - lr: 0.0010

Epoch 288: LearningRateScheduler setting learning rate to 0.001.

Epoch 288/300

26/26 [==============================] - ETA: 0s - loss: 0.3076 - categorical\_accuracy: 0.9982

Epoch 288: val\_categorical\_accuracy did not improve from 0.80469

Epoch 288: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 714ms/step - loss: 0.3076 - categorical\_accuracy: 0.9982 - val\_loss: 0.9876 - val\_categorical\_accuracy: 0.6693 - lr: 0.0010

Epoch 289: LearningRateScheduler setting learning rate to 0.001.

Epoch 289/300

26/26 [==============================] - ETA: 0s - loss: 0.3066 - categorical\_accuracy: 0.9994

Epoch 289: val\_categorical\_accuracy did not improve from 0.80469

Epoch 289: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 706ms/step - loss: 0.3066 - categorical\_accuracy: 0.9994 - val\_loss: 0.9864 - val\_categorical\_accuracy: 0.6719 - lr: 0.0010

Epoch 290: LearningRateScheduler setting learning rate to 0.001.

Epoch 290/300

26/26 [==============================] - ETA: 0s - loss: 0.3053 - categorical\_accuracy: 1.0000

Epoch 290: val\_categorical\_accuracy did not improve from 0.80469

Epoch 290: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 722ms/step - loss: 0.3053 - categorical\_accuracy: 1.0000 - val\_loss: 0.9916 - val\_categorical\_accuracy: 0.6719 - lr: 0.0010

Epoch 291: LearningRateScheduler setting learning rate to 0.001.

Epoch 291/300

26/26 [==============================] - ETA: 0s - loss: 0.3053 - categorical\_accuracy: 0.9994

Epoch 291: val\_categorical\_accuracy did not improve from 0.80469

Epoch 291: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 719ms/step - loss: 0.3053 - categorical\_accuracy: 0.9994 - val\_loss: 0.9897 - val\_categorical\_accuracy: 0.6719 - lr: 0.0010

Epoch 292: LearningRateScheduler setting learning rate to 0.001.

Epoch 292/300

26/26 [==============================] - ETA: 0s - loss: 0.3054 - categorical\_accuracy: 1.0000

Epoch 292: val\_categorical\_accuracy did not improve from 0.80469

Epoch 292: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 21s 712ms/step - loss: 0.3054 - categorical\_accuracy: 1.0000 - val\_loss: 0.9907 - val\_categorical\_accuracy: 0.6719 - lr: 0.0010

Epoch 293: LearningRateScheduler setting learning rate to 0.001.

Epoch 293/300

26/26 [==============================] - ETA: 0s - loss: 0.3064 - categorical\_accuracy: 0.9994

Epoch 293: val\_categorical\_accuracy did not improve from 0.80469

Epoch 293: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 726ms/step - loss: 0.3064 - categorical\_accuracy: 0.9994 - val\_loss: 0.9899 - val\_categorical\_accuracy: 0.6745 - lr: 0.0010

Epoch 294: LearningRateScheduler setting learning rate to 0.001.

Epoch 294/300

26/26 [==============================] - ETA: 0s - loss: 0.3078 - categorical\_accuracy: 0.9982

Epoch 294: val\_categorical\_accuracy did not improve from 0.80469

Epoch 294: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 718ms/step - loss: 0.3078 - categorical\_accuracy: 0.9982 - val\_loss: 0.9822 - val\_categorical\_accuracy: 0.6719 - lr: 0.0010

Epoch 295: LearningRateScheduler setting learning rate to 0.001.

Epoch 295/300

26/26 [==============================] - ETA: 0s - loss: 0.3057 - categorical\_accuracy: 1.0000

Epoch 295: val\_categorical\_accuracy did not improve from 0.80469

Epoch 295: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 729ms/step - loss: 0.3057 - categorical\_accuracy: 1.0000 - val\_loss: 0.9832 - val\_categorical\_accuracy: 0.6719 - lr: 0.0010

Epoch 296: LearningRateScheduler setting learning rate to 0.001.

Epoch 296/300

26/26 [==============================] - ETA: 0s - loss: 0.3061 - categorical\_accuracy: 0.9988

Epoch 296: val\_categorical\_accuracy did not improve from 0.80469

Epoch 296: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 722ms/step - loss: 0.3061 - categorical\_accuracy: 0.9988 - val\_loss: 0.9849 - val\_categorical\_accuracy: 0.6667 - lr: 0.0010

Epoch 297: LearningRateScheduler setting learning rate to 0.001.

Epoch 297/300

26/26 [==============================] - ETA: 0s - loss: 0.3067 - categorical\_accuracy: 0.9994

Epoch 297: val\_categorical\_accuracy did not improve from 0.80469

Epoch 297: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 717ms/step - loss: 0.3067 - categorical\_accuracy: 0.9994 - val\_loss: 0.9885 - val\_categorical\_accuracy: 0.6641 - lr: 0.0010

Epoch 298: LearningRateScheduler setting learning rate to 0.001.

Epoch 298/300

26/26 [==============================] - ETA: 0s - loss: 0.3080 - categorical\_accuracy: 0.9982

Epoch 298: val\_categorical\_accuracy did not improve from 0.80469

Epoch 298: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 23s 732ms/step - loss: 0.3080 - categorical\_accuracy: 0.9982 - val\_loss: 0.9895 - val\_categorical\_accuracy: 0.6641 - lr: 0.0010

Epoch 299: LearningRateScheduler setting learning rate to 0.001.

Epoch 299/300

26/26 [==============================] - ETA: 0s - loss: 0.3058 - categorical\_accuracy: 0.9994

Epoch 299: val\_categorical\_accuracy did not improve from 0.80469

Epoch 299: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 727ms/step - loss: 0.3058 - categorical\_accuracy: 0.9994 - val\_loss: 0.9876 - val\_categorical\_accuracy: 0.6693 - lr: 0.0010

Epoch 300: LearningRateScheduler setting learning rate to 0.001.

Epoch 300/300

26/26 [==============================] - ETA: 0s - loss: 0.3051 - categorical\_accuracy: 1.0000

Epoch 300: val\_categorical\_accuracy did not improve from 0.80469

Epoch 300: val\_categorical\_accuracy did not improve from 0.80469

26/26 [==============================] - 22s 722ms/step - loss: 0.3051 - categorical\_accuracy: 1.0000 - val\_loss: 0.9947 - val\_categorical\_accuracy: 0.6693 - lr: 0.0010

7/7 [==============================] - 3s 265ms/step - loss: 0.7700 - categorical\_accuracy: 0.7944

[0.7700456380844116, 0.7943925261497498]

2022-08-23 14:34:32.298289: W tensorflow/core/grappler/costs/op\_level\_cost\_estimator.cc:690] Error in PredictCost() for the op: op: "Softmax" attr { key: "T" value { type: DT\_FLOAT } } inputs { dtype: DT\_FLOAT shape { unknown\_rank: true } } device { type: "GPU" vendor: "NVIDIA" model: "Tesla T4" frequency: 1590 num\_cores: 40 environment { key: "architecture" value: "7.5" } environment { key: "cuda" value: "11010" } environment { key: "cudnn" value: "8005" } num\_registers: 65536 l1\_cache\_size: 24576 l2\_cache\_size: 4194304 shared\_memory\_size\_per\_multiprocessor: 65536 memory\_size: 14444920832 bandwidth: 320064000 } outputs { dtype: DT\_FLOAT shape { unknown\_rank: true } }

WARNING:tensorflow:Your input ran out of data; interrupting training. Make sure that your dataset or generator can generate at least `steps\_per\_epoch \* epochs` batches (in this case, 428 batches). You may need to use the repeat() function when building your dataset.

Confusion Matrix

[[ 88 5 11]

[ 0 92 0]

[ 45 27 160]]

Classification Report

precision recall f1-score support

covid 0.66 0.85 0.74 104

pneumonia 0.74 1.00 0.85 92

regular 0.94 0.69 0.79 232

accuracy 0.79 428

macro avg 0.78 0.85 0.80 428

weighted avg 0.83 0.79 0.79 428