```
 1 /Users/andrey/python/oleg-semenovich/venv/bin/
   python /Users/andrey/python/oleg-semenovich/main.py

 2 2024-06-01 13:28:39.721807: I tensorflow/core/
   platform/cpu_feature_guard.cc:182] This TensorFlow
   binary is optimized to use available CPU
   instructions in performance-critical operations.
 3 To enable the following instructions: SSE4.1 SSE4.2
   , in other operations, rebuild TensorFlow with the
   appropriate compiler flags.
 4 Found 2000 files belonging to 3 classes.
 5 Found 150 files belonging to 3 classes.
 6 Found 600 files belonging to 3 classes.
 7 Model: "sequential"
 8 _____
   _____
 9  Layer (type)                    Output Shape
                    Param #
10 =================================================
   ===============
11  mobilenetv2_1.00_224 (Funct  (None, 7, 7, 1280
   )        2257984
12  ional
   )


13


14  max_pooling2d (MaxPooling2D  (None, 3, 3, 1280
   )        0
15  )


16


17  flatten (Flatten)             (None, 11520
   )               0
18


19  dense (Dense)                 (None, 512
   )                5898752
20
```

```
21  dropout (Dropout)              (None, 512
    )                    0
22


23  dense_1 (Dense)                (None, 64
    )                    32832
24


25  dense_2 (Dense)                (None, 3
    )                    195
26


27  ====================================================
    ==============
28  Total params: 8,189,763
29  Trainable params: 5,931,779
30  Non-trainable params: 2,257,984
31  _____
    _____
32  2024-06-01 13:28:42.672036: I tensorflow/core/
    common_runtime/executor.cc:1197] [/device:CPU:0] (
    DEBUG INFO) Executor start aborting (this does not
    indicate an error and you can ignore this message
    ): INVALID_ARGUMENT: You must feed a value for
    placeholder tensor 'Placeholder/_4' with dtype
    int32 and shape [2000]
33        [[{{node Placeholder/_4}}]]
34  2024-06-01 13:28:42.672627: I tensorflow/core/
    common_runtime/executor.cc:1197] [/device:CPU:0] (
    DEBUG INFO) Executor start aborting (this does not
    indicate an error and you can ignore this message
    ): INVALID_ARGUMENT: You must feed a value for
    placeholder tensor 'Placeholder/_0' with dtype
    string and shape [2000]
35        [[{{node Placeholder/_0}}]]
36  Epoch 1/15
37  16/16 [==============================] - ETA: 0s -
    loss: 1.7064 - categorical_accuracy: 0.56252024-06-
    01 13:30:05.818736: I tensorflow/core/
    common_runtime/executor.cc:1197] [/device:CPU:0] (
    DEBUG INFO) Executor start aborting (this does not
```

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37 indicate an error and you can ignore this message
   ): INVALID_ARGUMENT: You must feed a value for
   placeholder tensor 'Placeholder/_0' with dtype
   string and shape [150]
38      [[{{node Placeholder/_0}}]]
39 2024-06-01 13:30:05.822135: I tensorflow/core/
   common_runtime/executor.cc:1197] [/device:CPU:0] (
   DEBUG INFO) Executor start aborting (this does not
   indicate an error and you can ignore this message
   ): INVALID_ARGUMENT: You must feed a value for
   placeholder tensor 'Placeholder/_0' with dtype
   string and shape [150]
40      [[{{node Placeholder/_0}}]]
41 16/16 [==============================] - 92s 4s/
   step - loss: 1.7064 - categorical_accuracy: 0.5625
    - val_loss: 1.1072 - val_categorical_accuracy: 0.
   6000
42 Epoch 2/15
43 16/16 [==============================] - 81s 3s/
   step - loss: 1.1803 - categorical_accuracy: 0.6125
    - val_loss: 0.9752 - val_categorical_accuracy: 0.
   5933
44 Epoch 3/15
45 16/16 [==============================] - 85s 3s/
   step - loss: 0.9723 - categorical_accuracy: 0.6430
    - val_loss: 0.9013 - val_categorical_accuracy: 0.
   6200
46 Epoch 4/15
47 16/16 [==============================] - 85s 3s/
   step - loss: 0.8667 - categorical_accuracy: 0.6715
    - val_loss: 0.9114 - val_categorical_accuracy: 0.
   6400
48 Epoch 5/15
49 16/16 [==============================] - 82s 3s/
   step - loss: 0.8114 - categorical_accuracy: 0.6770
    - val_loss: 0.8890 - val_categorical_accuracy: 0.
   6467
50 Epoch 6/15
51 16/16 [==============================] - 83s 3s/
   step - loss: 0.7730 - categorical_accuracy: 0.6805
    - val_loss: 0.8746 - val_categorical_accuracy: 0.
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51 6267
52 Epoch 7/15
53 16/16 [==============================] - 80s 3s/
   step - loss: 0.7312 - categorical_accuracy: 0.7035
    - val_loss: 0.8438 - val_categorical_accuracy: 0.
   6533
54 Epoch 8/15
55 16/16 [==============================] - 81s 3s/
   step - loss: 0.7147 - categorical_accuracy: 0.7180
    - val_loss: 0.8517 - val_categorical_accuracy: 0.
   6533
56 Epoch 9/15
57 16/16 [==============================] - 80s 3s/
   step - loss: 0.6850 - categorical_accuracy: 0.7180
    - val_loss: 0.8366 - val_categorical_accuracy: 0.
   6533
58 Epoch 10/15
59 16/16 [==============================] - 235s 3s/
   step - loss: 0.6736 - categorical_accuracy: 0.7225
    - val_loss: 0.8523 - val_categorical_accuracy: 0.
   6533
60 Epoch 11/15
61 16/16 [==============================] - 88s 4s/
   step - loss: 0.6494 - categorical_accuracy: 0.7315
    - val_loss: 0.8101 - val_categorical_accuracy: 0.
   6800
62 Epoch 12/15
63 16/16 [==============================] - 89s 4s/
   step - loss: 0.6409 - categorical_accuracy: 0.7440
    - val_loss: 0.8285 - val_categorical_accuracy: 0.
   6733
64 Epoch 13/15
65 16/16 [==============================] - 85s 4s/
   step - loss: 0.6250 - categorical_accuracy: 0.7480
    - val_loss: 0.8373 - val_categorical_accuracy: 0.
   6600
66 Epoch 14/15
67 16/16 [==============================] - 83s 3s/
   step - loss: 0.6205 - categorical_accuracy: 0.7455
    - val_loss: 0.7991 - val_categorical_accuracy: 0.
   6733
```

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68 Epoch 15/15
69 16/16 [==============================] - 83s 3s/
   step - loss: 0.5546 - categorical_accuracy: 0.7695
    - val_loss: 0.7912 - val_categorical_accuracy: 0.
   6933
70 2024-06-01 13:52:57.762353: I tensorflow/core/
   common_runtime/executor.cc:1197] [/device:CPU:0] (
   DEBUG INFO) Executor start aborting (this does not
    indicate an error and you can ignore this message
   ): INVALID_ARGUMENT: You must feed a value for
   placeholder tensor 'Placeholder/_0' with dtype
   string and shape [600]
71      [[{{node Placeholder/_0}}]]
72 2024-06-01 13:52:57.763418: I tensorflow/core/
   common_runtime/executor.cc:1197] [/device:CPU:0] (
   DEBUG INFO) Executor start aborting (this does not
    indicate an error and you can ignore this message
   ): INVALID_ARGUMENT: You must feed a value for
   placeholder tensor 'Placeholder/_0' with dtype
   string and shape [600]
73      [[{{node Placeholder/_0}}]]
74 5/5 [==============================] - 49s 2s/step
    - loss: 0.7309 - categorical_accuracy: 0.6850
75 Test result: 0.6850000023841858
76
77 Process finished with exit code 0
78
```