

Modelo base: vgg16_base

<tensorflow.python.keras.engine.training.Model object at 0x7f570c7f8a58>

Adam

Epoch 1/10

218/218 [=====] - 20s 91ms/step - loss: 8.8713 - accuracy: 0.4246 - val_loss: 8.8642 - val_accuracy: 0.4253

Epoch 2/10

218/218 [=====] - 20s 90ms/step - loss: 8.8724 - accuracy: 0.4248 - val_loss: 8.8642 - val_accuracy: 0.4253

Epoch 3/10

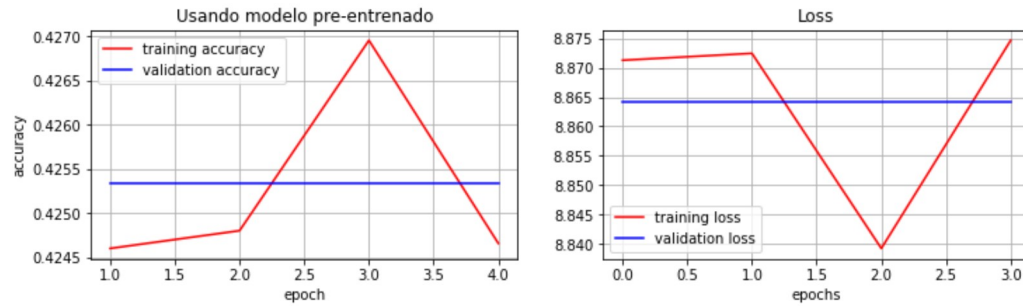
218/218 [=====] - 20s 90ms/step - loss: 8.8392 - accuracy: 0.4270 - val_loss: 8.8642 - val_accuracy: 0.4253

Epoch 4/10

218/218 [=====] - ETA: 0s - loss: 8.8747 - accuracy: 0.4247Restoring model weights from the end of the best epoch.

218/218 [=====] - 20s 90ms/step - loss: 8.8747 - accuracy: 0.4247 - val_loss: 8.8642 - val_accuracy: 0.4253

Epoch 00004: early stopping



10/10 [=====] - 3s 311ms/step - loss: 8.8539 - accuracy: 0.4260

<tensorflow.python.keras.engine.training.Model object at 0x7f570c7f8a58>

Epoch 1/10

218/218 [=====] - 20s 91ms/step - loss: 7.7114 - accuracy: 0.4973 - val_loss: 8.8642 - val_accuracy: 0.4253

Epoch 2/10

218/218 [=====] - 20s 90ms/step - loss: 8.8570 - accuracy: 0.4258 - val_loss: 8.8642 - val_accuracy: 0.4253

Epoch 3/10

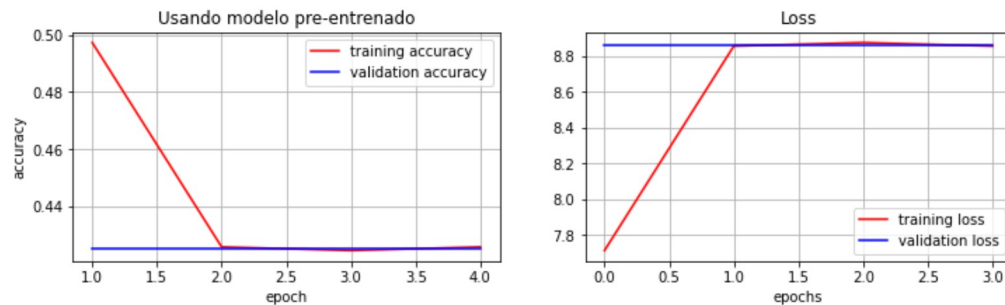
218/218 [=====] - 20s 90ms/step - loss: 8.8769 - accuracy: 0.4245 - val_loss: 8.8642 - val_accuracy: 0.4253

Epoch 4/10

218/218 [=====] - ETA: 0s - loss: 8.8570 - accuracy: 0.4258Restoring model weights from the end of the best epoch.

218/218 [=====] - 20s 91ms/step - loss: 8.8570 - accuracy: 0.4258 - val_loss: 8.8642 - val_accuracy: 0.4253

Epoch 00004: early stopping



10/10 [=====] - 3s 311ms/step - loss: 8.8437 - accuracy: 0.4267

```
<tensorflow.python.keras.engine.training.Model object at 0x7f570c7f8a58>
```

SGD

Epoch 1/10

218/218 [=====] - 20s 91ms/step - loss: 7.0567 - accuracy: 0.5394 - val_loss: 8.8539 - val_accuracy: 0.4260

Epoch 2/10

218/218 [=====] - 20s 90ms/step - loss: 8.8724 - accuracy: 0.4248 - val_loss: 8.8539 - val_accuracy: 0.4260

Epoch 3/10

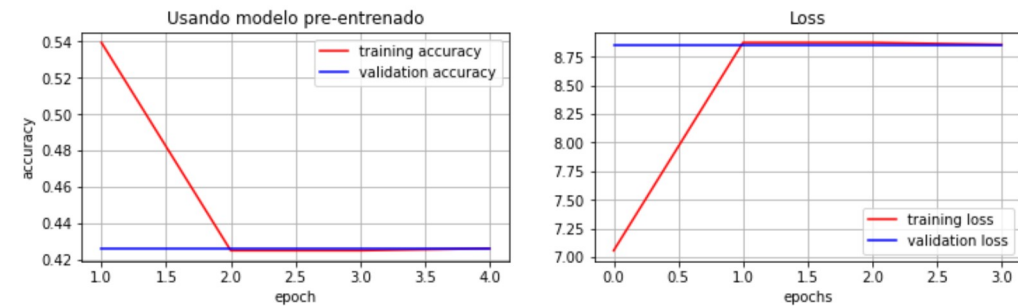
218/218 [=====] - 20s 90ms/step - loss: 8.8724 - accuracy: 0.4248 - val_loss: 8.8539 - val_accuracy: 0.4260

Epoch 4/10

218/218 [=====] - ETA: 0s - loss: 8.8547 - accuracy: 0.4259Restoring model weights from the end of the best epoch.

218/218 [=====] - 20s 90ms/step - loss: 8.8547 - accuracy: 0.4259 - val_loss: 8.8539 - val_accuracy: 0.4260

Epoch 00004: early stopping



10/10 [=====] - 3s 311ms/step - loss: 8.8641 - accuracy: 0.4253

Modelo base: resnet50_base

```
<tensorflow.python.keras.engine.training.Model object at 0x7f56eaf1eeb8>
```

Adam

Epoch 1/10

218/218 [=====] - 15s 67ms/step - loss: 5.8303 - accuracy: 0.6138 - val_loss: 6.4860 - val_accuracy: 0.5747

Epoch 2/10

218/218 [=====] - 14s 62ms/step - loss: 6.4888 - accuracy: 0.5745 - val_loss: 6.4860 - val_accuracy: 0.5747

Epoch 3/10

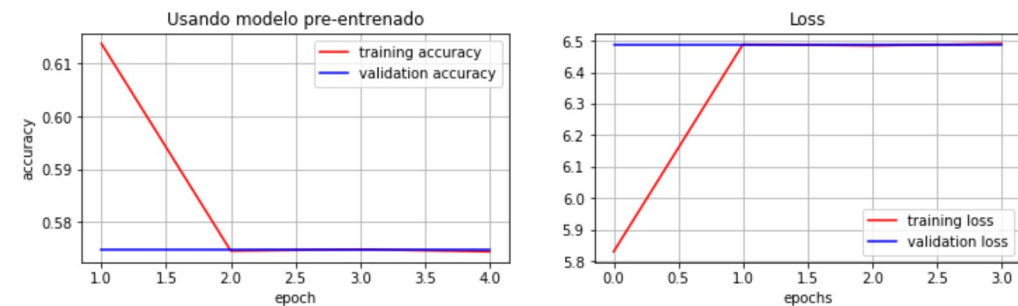
218/218 [=====] - 14s 62ms/step - loss: 6.4844 - accuracy: 0.5748 - val_loss: 6.4860 - val_accuracy: 0.5747

Epoch 4/10

218/218 [=====] - ETA: 0s - loss: 6.4910 - accuracy: 0.5743Restoring model weights from the end of the best epoch.

218/218 [=====] - 14s 63ms/step - loss: 6.4910 - accuracy: 0.5743 - val_loss: 6.4860 - val_accuracy: 0.5747

Epoch 00004: early stopping



10/10 [=====] - 2s 192ms/step - loss: 6.4962 - accuracy: 0.5740

```
<tensorflow.python.keras.engine.training.Model object at 0x7f56eaf1eeb8>
```

```
Epoch 1/10
```

```
218/218 [=====] - 14s 66ms/step - loss: 6.4785 - accuracy: 0.5748 - val_loss: 6.4860 - val_accuracy: 0.5747
```

```
Epoch 2/10
```

```
218/218 [=====] - 14s 62ms/step - loss: 6.4910 - accuracy: 0.5743 - val_loss: 6.4860 - val_accuracy: 0.5747
```

```
Epoch 3/10
```

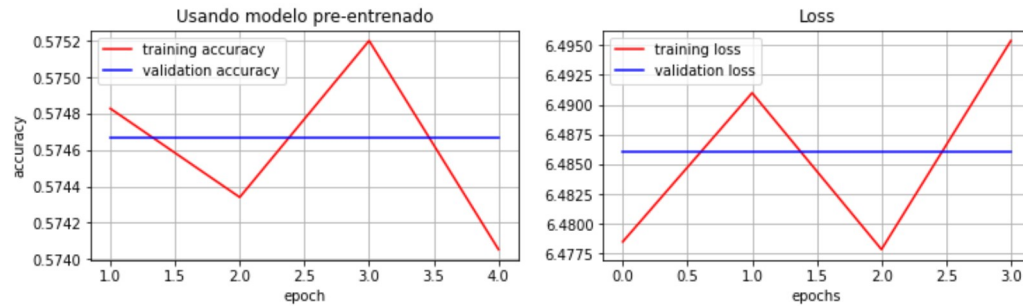
```
218/218 [=====] - 14s 62ms/step - loss: 6.4779 - accuracy: 0.5752 - val_loss: 6.4860 - val_accuracy: 0.5747
```

```
Epoch 4/10
```

```
218/218 [=====] - ETA: 0s - loss: 6.4954 - accuracy: 0.5741Restoring model weights from the end of the best epoch.
```

```
218/218 [=====] - 14s 62ms/step - loss: 6.4954 - accuracy: 0.5741 - val_loss: 6.4860 - val_accuracy: 0.5747
```

```
Epoch 00004: early stopping
```



```
10/10 [=====] - 2s 192ms/step - loss: 6.4962 - accuracy: 0.5740
```

```
<tensorflow.python.keras.engine.training.Model object at 0x7f56eaf1eeb8>
```

```
SGD
```

```
Epoch 1/10
```

```
218/218 [=====] - 14s 66ms/step - loss: 6.4653 - accuracy: 0.5751 - val_loss: 6.4860 - val_accuracy: 0.5747
```

```
Epoch 2/10
```

```
218/218 [=====] - 14s 62ms/step - loss: 6.4757 - accuracy: 0.5753 - val_loss: 6.4860 - val_accuracy: 0.5747
```

```
Epoch 3/10
```

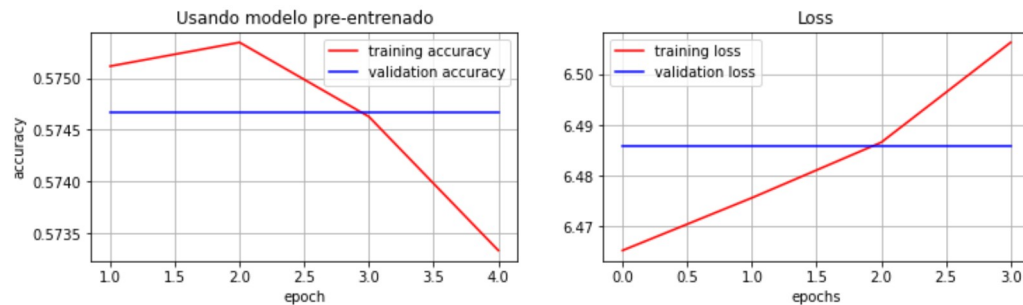
```
218/218 [=====] - 14s 62ms/step - loss: 6.4866 - accuracy: 0.5746 - val_loss: 6.4860 - val_accuracy: 0.5747
```

```
Epoch 4/10
```

```
218/218 [=====] - ETA: 0s - loss: 6.5063 - accuracy: 0.5733Restoring model weights from the end of the best epoch.
```

```
218/218 [=====] - 14s 62ms/step - loss: 6.5063 - accuracy: 0.5733 - val_loss: 6.4860 - val_accuracy: 0.5747
```

```
Epoch 00004: early stopping
```

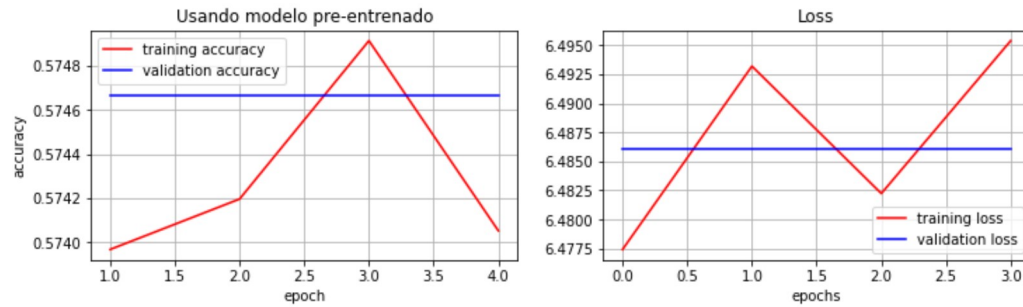


```
10/10 [=====] - 2s 192ms/step - loss: 6.4962 - accuracy: 0.5740
```

```
Modelo base: MobileNetV2_base
```

```
<tensorflow.python.keras.engine.training.Model object at 0x7f57766f5dd8>
```

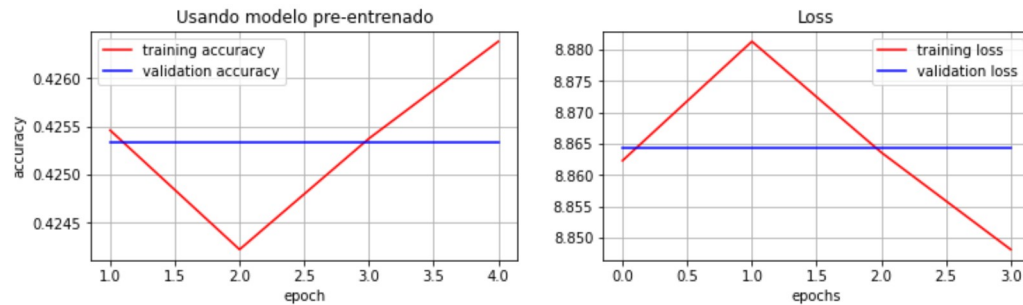
```
Adam
Epoch 1/10
218/218 [=====] - 7s 32ms/step - loss: 6.4774 - accuracy: 0.5740 - val_loss: 6.4860 - val_accuracy: 0.5747
Epoch 2/10
218/218 [=====] - 6s 29ms/step - loss: 6.4932 - accuracy: 0.5742 - val_loss: 6.4860 - val_accuracy: 0.5747
Epoch 3/10
218/218 [=====] - 6s 29ms/step - loss: 6.4822 - accuracy: 0.5749 - val_loss: 6.4860 - val_accuracy: 0.5747
Epoch 4/10
218/218 [=====] - ETA: 0s - loss: 6.4954 - accuracy: 0.5741Restoring model weights from the end of the best epoch.
218/218 [=====] - 6s 30ms/step - loss: 6.4954 - accuracy: 0.5741 - val_loss: 6.4860 - val_accuracy: 0.5747
Epoch 00004: early stopping
```



```
10/10 [=====] - 1s 88ms/step - loss: 6.4962 - accuracy: 0.5740
```

```
<tensorflow.python.keras.engine.training.Model object at 0x7f57766f5dd8>
```

```
Epoch 1/10
218/218 [=====] - 7s 32ms/step - loss: 8.8623 - accuracy: 0.4255 - val_loss: 8.8642 - val_accuracy: 0.4253
Epoch 2/10
218/218 [=====] - 6s 29ms/step - loss: 8.8813 - accuracy: 0.4242 - val_loss: 8.8642 - val_accuracy: 0.4253
Epoch 3/10
218/218 [=====] - 6s 29ms/step - loss: 8.8636 - accuracy: 0.4254 - val_loss: 8.8642 - val_accuracy: 0.4253
Epoch 4/10
217/218 [=====>.] - ETA: 0s - loss: 8.8400 - accuracy: 0.4269Restoring model weights from the end of the best epoch.
218/218 [=====] - 6s 29ms/step - loss: 8.8481 - accuracy: 0.4264 - val_loss: 8.8642 - val_accuracy: 0.4253
Epoch 00004: early stopping
```



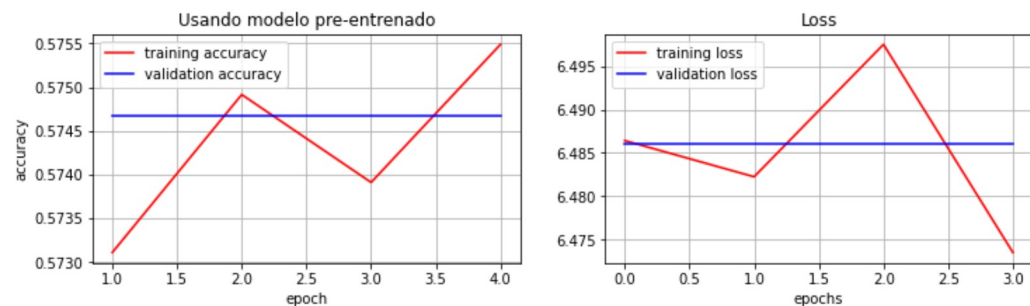
```
10/10 [=====] - 1s 88ms/step - loss: 8.8539 - accuracy: 0.4260
```

```
<tensorflow.python.keras.engine.training.Model object at 0x7f57766f5dd8>
```

```
SGD
```

```
Epoch 1/10
```

```
218/218 [=====] - 7s 32ms/step - loss: 6.4864 - accuracy: 0.5731 - val_loss: 6.4860 - val_accuracy: 0.5747
Epoch 2/10
218/218 [=====] - 6s 29ms/step - loss: 6.4822 - accuracy: 0.5749 - val_loss: 6.4860 - val_accuracy: 0.5747
Epoch 3/10
218/218 [=====] - 6s 29ms/step - loss: 6.4976 - accuracy: 0.5739 - val_loss: 6.4860 - val_accuracy: 0.5747
Epoch 4/10
216/218 [=====>.] - ETA: 0s - loss: 6.4739 - accuracy: 0.5755Restoring model weights from the end of the best epoch.
218/218 [=====] - 6s 29ms/step - loss: 6.4735 - accuracy: 0.5755 - val_loss: 6.4860 - val_accuracy: 0.5747
Epoch 00004: early stopping
```



```
10/10 [=====] - 1s 87ms/step - loss: 6.4962 - accuracy: 0.5740
```