

## Train the Model

```
model.fit_generator(generator=x_train, steps_per_epoch = len(x_train), epochs=10, validation_data=x_test, validation_steps = len(x_test))
```

Python

```
<ipython-input-12-da6b799e739e>:1: UserWarning: `Model.fit_generator` is deprecated and will be removed in a future version.  
Please use `Model.fit`, which supports generators.
```

```
model.fit_generator(generator=x_train, steps_per_epoch = len(x_train), epochs=10, validation_data=x_test, validation_steps =  
len(x_test))
```

Epoch 1/10

480/480 [=====] - 293s 609ms/step - loss: 1.3855 - accuracy: 0.4979 - val\_loss: 1.4711 - val\_accuracy: 0.4818

Epoch 2/10

480/480 [=====] - 112s 233ms/step - loss: 0.6817 - accuracy: 0.7736 - val\_loss: 0.6056 - val\_accuracy: 0.7938

Epoch 3/10

480/480 [=====] - 111s 232ms/step - loss: 0.3588 - accuracy: 0.8937 - val\_loss: 0.5459 - val\_accuracy: 0.8554

Epoch 4/10

480/480 [=====] - 112s 233ms/step - loss: 0.2939 - accuracy: 0.9133 - val\_loss: 0.3885 - val\_accuracy: 0.8777

Epoch 5/10

480/480 [=====] - 115s 239ms/step - loss: 0.2541 - accuracy: 0.9241 - val\_loss: 0.3589 - val\_accuracy: 0.8847

Epoch 6/10

```
Epoch 3/10
480/480 [=====] - 111s 232ms/step - loss: 0.3588 - accuracy: 0.8937 - val_loss: 0.5459 - val_accuracy:
0.8554
Epoch 4/10
480/480 [=====] - 112s 233ms/step - loss: 0.2939 - accuracy: 0.9133 - val_loss: 0.3885 - val_accuracy:
0.8777
Epoch 5/10
480/480 [=====] - 115s 239ms/step - loss: 0.2541 - accuracy: 0.9241 - val_loss: 0.3589 - val_accuracy:
0.8847
Epoch 6/10
480/480 [=====] - 113s 236ms/step - loss: 0.2280 - accuracy: 0.9348 - val_loss: 0.3392 - val_accuracy:
0.9007
Epoch 7/10
480/480 [=====] - 119s 248ms/step - loss: 0.2161 - accuracy: 0.9372 - val_loss: 0.3637 - val_accuracy:
0.8911
Epoch 8/10
480/480 [=====] - 113s 235ms/step - loss: 0.2000 - accuracy: 0.9403 - val_loss: 0.3671 - val_accuracy:
0.8873
Epoch 9/10
480/480 [=====] - 116s 241ms/step - loss: 0.1897 - accuracy: 0.9434 - val_loss: 0.3255 - val_accuracy:
0.9010
Epoch 10/10
480/480 [=====] - 112s 234ms/step - loss: 0.1755 - accuracy: 0.9479 - val_loss: 0.3082 - val_accuracy:
0.9087
```

```
<keras.callbacks.History at 0xc1d47dbddb80>
```