Tensorflow ile Image Classification Modeli Oluşturmak

Model

```
1048
Found 4200 files belonging to 6 classes.
Found 1048 files belonging to 6 classes.
['cr', 'in', 'pa', 'ps', 'rs', 'sc']
Model: "sequential_3"
_____
Layer (type)                 Output Shape              Param #
=================================================================
sequential_2 (Sequential)    (None, 64, 64, 3)         0

rescaling_1 (Rescaling)      (None, 64, 64, 3)         0

conv2d_2 (Conv2D)            (None, 64, 64, 16)        448

max_pooling2d_2 (MaxPooling2 (None, 32, 32, 16)        0

conv2d_3 (Conv2D)            (None, 32, 32, 32)        4640

max_pooling2d_3 (MaxPooling2 (None, 16, 16, 32)        0

dropout_1 (Dropout)          (None, 16, 16, 32)        0

flatten_1 (Flatten)          (None, 8192)              0

dense_2 (Dense)              (None, 128)               1048704

dense_3 (Dense)              (None, 6)                 774
=================================================================
Total params: 1,054,566
Trainable params: 1,054,566
Non-trainable params: 0
```
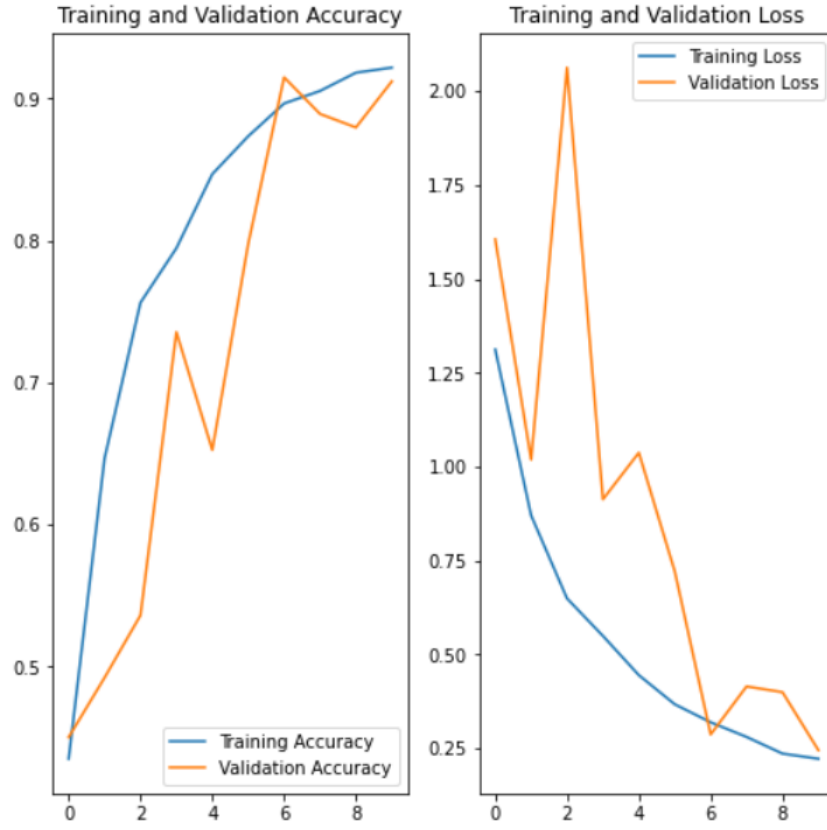
Training

```
_____
Epoch 1/10
525/525 [==============================] - 32s 51ms/step - loss: 1.3122 - accuracy: 0.4352 - val_loss: 1.6055 - val_accuracy: 0.4504
Epoch 2/10
525/525 [==============================] - 26s 49ms/step - loss: 0.8703 - accuracy: 0.6469 - val_loss: 1.0189 - val_accuracy: 0.4924
Epoch 3/10
525/525 [==============================] - 27s 51ms/step - loss: 0.6491 - accuracy: 0.7564 - val_loss: 2.0628 - val_accuracy: 0.5363
Epoch 4/10
525/525 [==============================] - 26s 49ms/step - loss: 0.5493 - accuracy: 0.7948 - val_loss: 0.9131 - val_accuracy: 0.7357
Epoch 5/10
525/525 [==============================] - 26s 49ms/step - loss: 0.4448 - accuracy: 0.8469 - val_loss: 1.0373 - val_accuracy: 0.6527
Epoch 6/10
525/525 [==============================] - 25s 48ms/step - loss: 0.3673 - accuracy: 0.8736 - val_loss: 0.7214 - val_accuracy: 0.7977
Epoch 7/10
525/525 [==============================] - 25s 48ms/step - loss: 0.3194 - accuracy: 0.8967 - val_loss: 0.2869 - val_accuracy: 0.9151
Epoch 8/10
525/525 [==============================] - 26s 49ms/step - loss: 0.2804 - accuracy: 0.9055 - val_loss: 0.4148 - val_accuracy: 0.8893
Epoch 9/10
525/525 [==============================] - 25s 48ms/step - loss: 0.2359 - accuracy: 0.9183 - val_loss: 0.3996 - val_accuracy: 0.8798
Epoch 10/10
525/525 [==============================] - 26s 49ms/step - loss: 0.2223 - accuracy: 0.9219 - val_loss: 0.2452 - val_accuracy: 0.9122
```

Training and Validation Accuracy — Training and Validation Loss

```
INFO:tensorflow:Assets written to: model artifact/assets
```

Sonuç (Yeni veriler)

```
1044
Found 1044 files belonging to 6 classes.
131/131 [==============================] - 3s 19ms/step - loss: 0.1516 - accuracy: 0.9473
```