100% 10/10 [1:51:18<00:00, 671.28s/it]

100% 6/6 [11:02<00:00, 110.39s/it]

```
SVC(C=1, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.0007, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.68
[0.72093023 0.64912281]
SVC(C=1, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.00075, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.685
[0.72941176 0.65217391]
SVC(C=1, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.0008, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.68
[0.72093023 0.64912281]
SVC(C=1, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.00085, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.67
[0.71428571 0.63793103]
SVC(C=1, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.0009, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.67
[0.7195122  0.63559322]
SVC(C=1, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.001, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.675
[0.72839506 0.63865546]
```

100% 6/6 [11:13<00:00, 112.24s/it]

```
SVC(C=5, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.0007, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.69
[0.71276596 0.66981132]
SVC(C=5, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.00075, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.69
[0.7173913  0.66666667]
SVC(C=5, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.0008, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.685
[0.71428571 0.66055046]
SVC(C=5, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.00085, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.68
[0.71111111 0.65454545]
SVC(C=5, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.0009, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.68
[0.71111111 0.65454545]
SVC(C=5, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.001, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.68
[0.71111111 0.65454545]
```

100% 6/6 [11:08<00:00, 111.38s/it]

```
SVC(C=7, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.0007, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.69
[0.7173913  0.66666667]
SVC(C=7, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.00075, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.685
[0.71428571 0.66055046]
SVC(C=7, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.0008, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.68
[0.71111111 0.65454545]
SVC(C=7, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.00085, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.675
[0.70786517 0.64864865]
SVC(C=7, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.0009, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.68
[0.71111111 0.65454545]
SVC(C=7, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.001, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.68
[0.71111111 0.65454545]
```

100% 6/6 [11:01<00:00, 110.29s/it]

```
SVC(C=10, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.0007, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.68
[0.71111111 0.65454545]
SVC(C=10, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.00075, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.685
[0.71428571 0.66055046]
SVC(C=10, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.0008, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.68
[0.71111111 0.65454545]
SVC(C=10, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.00085, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.68
[0.71111111 0.65454545]
SVC(C=10, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.0009, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.68
[0.71111111 0.65454545]
SVC(C=10, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.001, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.68
[0.71111111 0.65454545]
```

100% 6/6 [11:02<00:00, 110.47s/it]

```
SVC(C=12, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.0007, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.68
[0.71111111 0.65454545]
SVC(C=12, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.00075, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.685
[0.71428571 0.66055046]
SVC(C=12, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.0008, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.68
[0.71111111 0.65454545]
SVC(C=12, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.00085, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.68
[0.71111111 0.65454545]
SVC(C=12, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.0009, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.68
[0.71111111 0.65454545]
SVC(C=12, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.001, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.68
[0.71111111 0.65454545]
```

100% 6/6 [11:09<00:00, 111.88s/it]

```
SVC(C=15, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.0007, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.68
[0.71111111 0.65454545]
SVC(C=15, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.00075, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.685
[0.71428571 0.66055046]
SVC(C=15, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.0008, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.68
[0.71111111 0.65454545]
SVC(C=15, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.00085, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.68
[0.71111111 0.65454545]
SVC(C=15, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.0009, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.68
[0.71111111 0.65454545]
SVC(C=15, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.001, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.68
[0.71111111 0.65454545]
```

100% 6/6 [11:03<00:00, 110.89s/it]

```
SVC(C=17, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.0007, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.68
[0.71111111 0.65454545]
SVC(C=17, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.00075, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.685
[0.71428571 0.66055046]
SVC(C=17, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.0008, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.68
[0.71111111 0.65454545]
SVC(C=17, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.00085, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.68
[0.71111111 0.65454545]
SVC(C=17, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.0009, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.68
[0.71111111 0.65454545]
SVC(C=17, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.001, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.68
[0.71111111 0.65454545]
```

100% 6/6 [11:03<00:00, 110.50s/it]

```
SVC(C=20, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.0007, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.68
[0.71111111 0.65454545]
SVC(C=20, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.00075, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.685
[0.71428571 0.66055046]
SVC(C=20, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.0008, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.68
[0.71111111 0.65454545]
SVC(C=20, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.00085, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.68
[0.71111111 0.65454545]
SVC(C=20, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.0009, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.68
[0.71111111 0.65454545]
SVC(C=20, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.001, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.68
[0.71111111 0.65454545]
```

100% 6/6 [11:11<00:00, 113.09s/it]

```
SVC(C=25, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.0007, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.675
[0.7032967  0.65137615]
SVC(C=25, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.00075, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.685
[0.71428571 0.66055046]
SVC(C=25, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.0008, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.68
[0.71111111 0.65454545]
SVC(C=25, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.00085, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.675
[0.70786517 0.64864865]
SVC(C=25, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.0009, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.68
[0.71111111 0.65454545]
SVC(C=25, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.001, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.68
[0.71111111 0.65454545]
```

100% 6/6 [11:21<00:00, 113.34s/it]

```
SVC(C=30, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.0007, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.675
[0.7032967  0.65137615]
SVC(C=30, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.00075, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.685
[0.71428571 0.66055046]
SVC(C=30, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.0008, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.68
[0.71111111 0.65454545]
SVC(C=30, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.00085, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.675
[0.70786517 0.64864865]
SVC(C=30, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.0009, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.68
[0.71111111 0.65454545]
SVC(C=30, cache_size=500, class_weight='balanced', coef0=0.0,
  decision_function_shape='ovr', degree=2, gamma=0.001, kernel='rbf',
  max_iter=-1, probability=False, random_state=2, shrinking=True,
  tol=0.001, verbose=False)
0.68
[0.71111111 0.65454545]

Trained and tested with 1.018% of the cleaned data set(196464 images)
```

Confusion matrix

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