

ResultMatrix

November 17, 2024

0.1 # 1. Pobranie potrzebnych bibliotek

Autor: mgr inż. Grzegorz Kossakowski

```
[1]: import pandas as pd
import matplotlib.pyplot as plt
from sklearn.metrics import confusion_matrix, ConfusionMatrixDisplay,
    accuracy_score
import pathlib
```

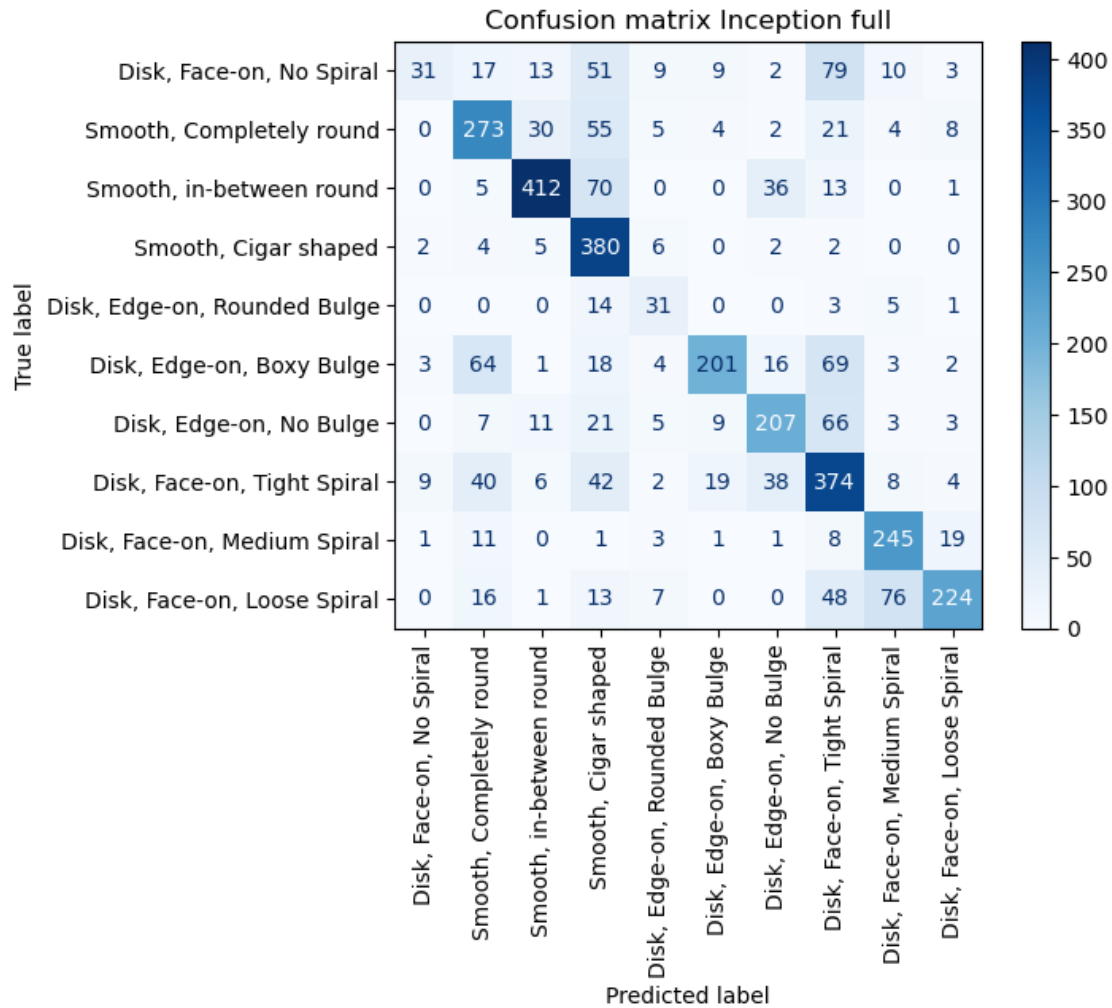
1 2. Pobranie etykiet

```
[2]: features = ['Disk, Face-on, No Spiral', 'Smooth, Completely round', 'Smooth,
    in-between round', 'Smooth, Cigar shaped', 'Disk, Edge-on, Rounded Bulge',
    'Disk, Edge-on, Boxy Bulge', 'Disk, Edge-on, No Bulge', 'Disk, Face-on, Tight
    Spiral', 'Disk, Face-on, Medium Spiral', 'Disk, Face-on, Loose Spiral']
```

2 3. Inception

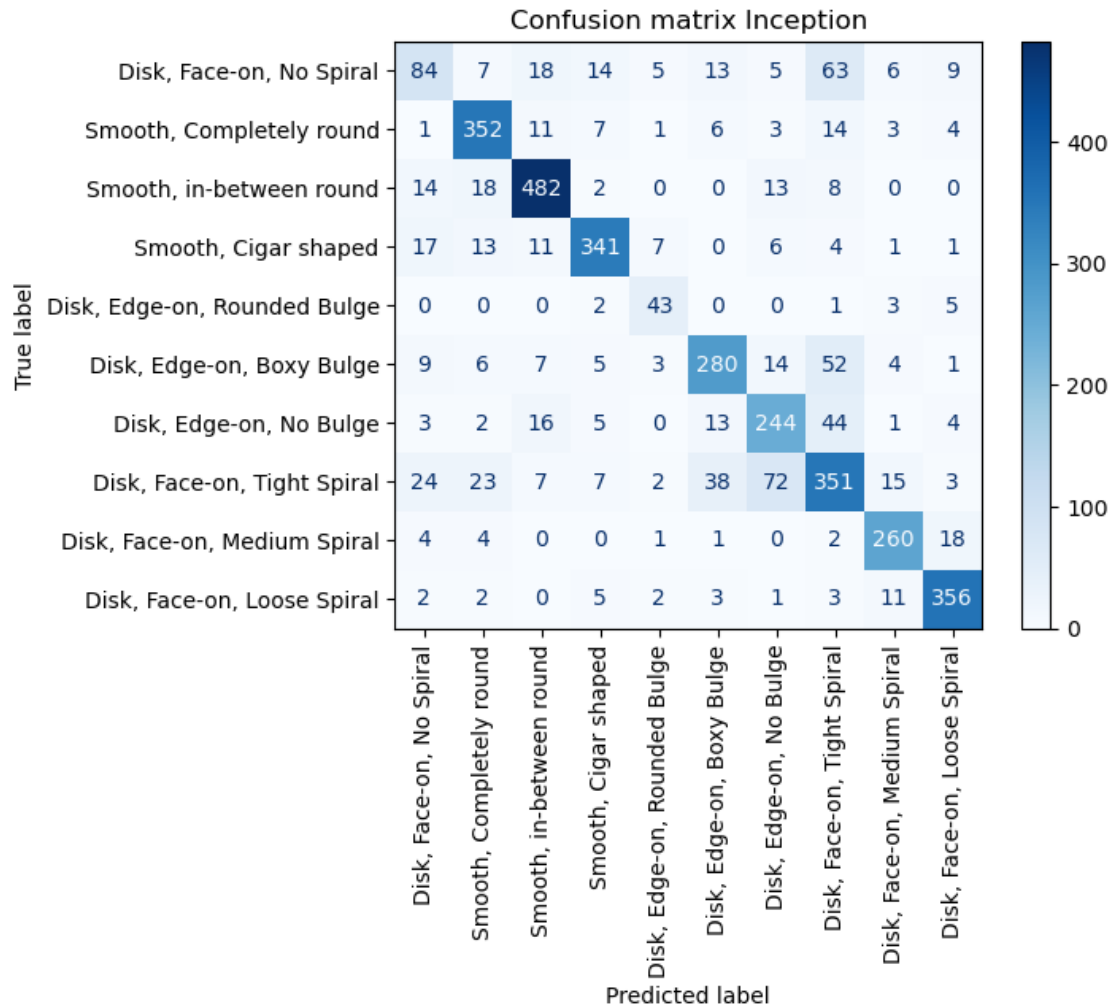
2.1 3.1. Nauka przy otwartych wszystkich warstwach

```
[3]: resultInceptionFull = pd.read_csv('./Results/Inception_full.csv')
InceptionFull = confusion_matrix(resultInceptionFull['test'],
    resultInceptionFull['predict'])
dispInceptionFull = ConfusionMatrixDisplay(confusion_matrix=InceptionFull,
    display_labels=features)
dispInceptionFull.plot(xticks_rotation=90, cmap=plt.cm.Blues)
plt.title('Confusion matrix Inception full')
plt.savefig('./PictureConfusionMatrix/Inception_full.jpeg', dpi = 900,
    bbox_inches='tight')
plt.show()
```



2.2 3.2. Nauka przy otwartych połowie warstwach

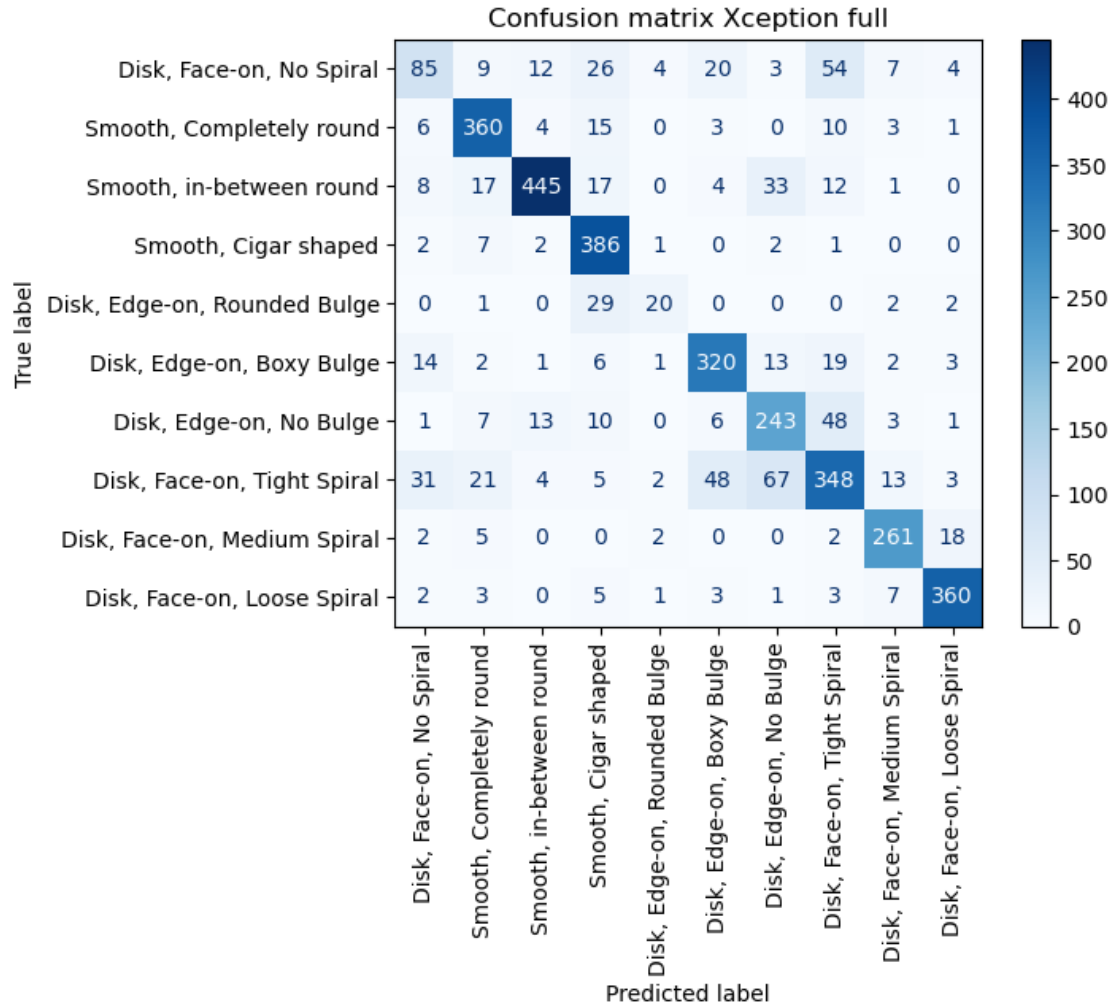
```
[4]: resultInception = pd.read_csv('./Results/Inception.csv')
Inception = confusion_matrix(resultInception['test'],
    ↪ resultInception['predict'])
dispInceptionFull = ConfusionMatrixDisplay(confusion_matrix=Inception,
    ↪ display_labels=features)
dispInceptionFull.plot(xticks_rotation=90, cmap=plt.cm.Blues)
plt.title('Confusion matrix Inception')
plt.savefig('./PictureConfusionMatrix/Inception.jpeg', dpi = 900,
    ↪ bbox_inches='tight')
plt.show()
```



3 4. Xception

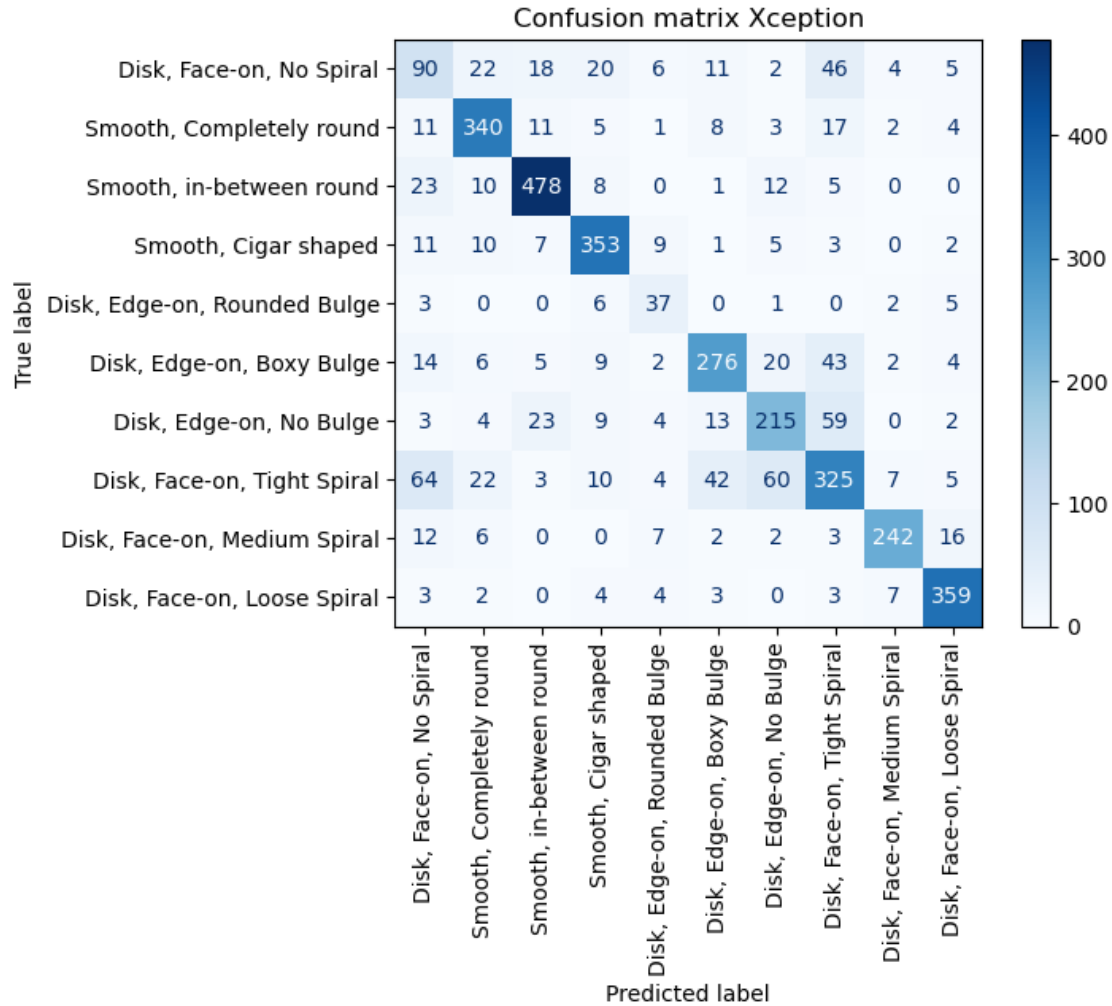
3.1 4.1. Nauka przy otwartych wszystkich warstwach

```
[5]: resultXceptionFull = pd.read_csv('./Results/Xception_full.csv')
XceptionFull = confusion_matrix(resultXceptionFull['test'],
    ↪ resultXceptionFull['predict'])
dispXceptionFull = ConfusionMatrixDisplay(confusion_matrix=XceptionFull,
    ↪ display_labels=features)
dispXceptionFull.plot(xticks_rotation=90, cmap=plt.cm.Blues)
plt.title('Confusion matrix Xception full')
plt.savefig('./PictureConfusionMatrix/Xception_full.jpeg', dpi = 900,
    ↪ bbox_inches='tight')
plt.show()
```



3.2 4.2. Nauka przy otwartych połowie warstwach

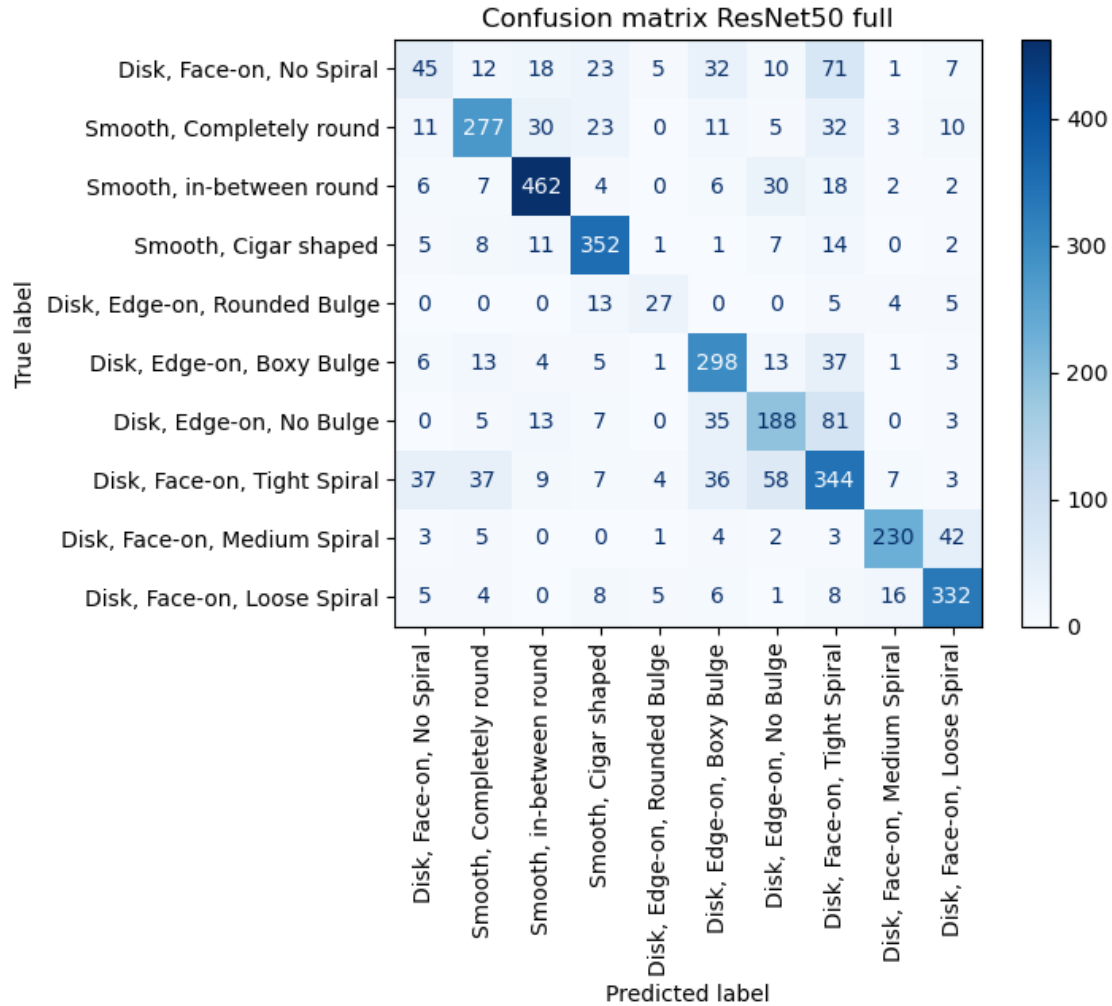
```
[6]: resultXception = pd.read_csv('./Results/Xception.csv')
Xception = confusion_matrix(resultXception['test'], resultXception['predict'])
dispXception = ConfusionMatrixDisplay(confusion_matrix=Xception,
    ↪display_labels=features)
dispXception.plot(xticks_rotation=90,cmap=plt.cm.Blues)
plt.title('Confusion matrix Xception')
plt.savefig('./PictureConfusionMatrix/Xception.jpeg', dpi = 900,
    ↪bbox_inches='tight')
plt.show()
```



4 5. ResNet-50

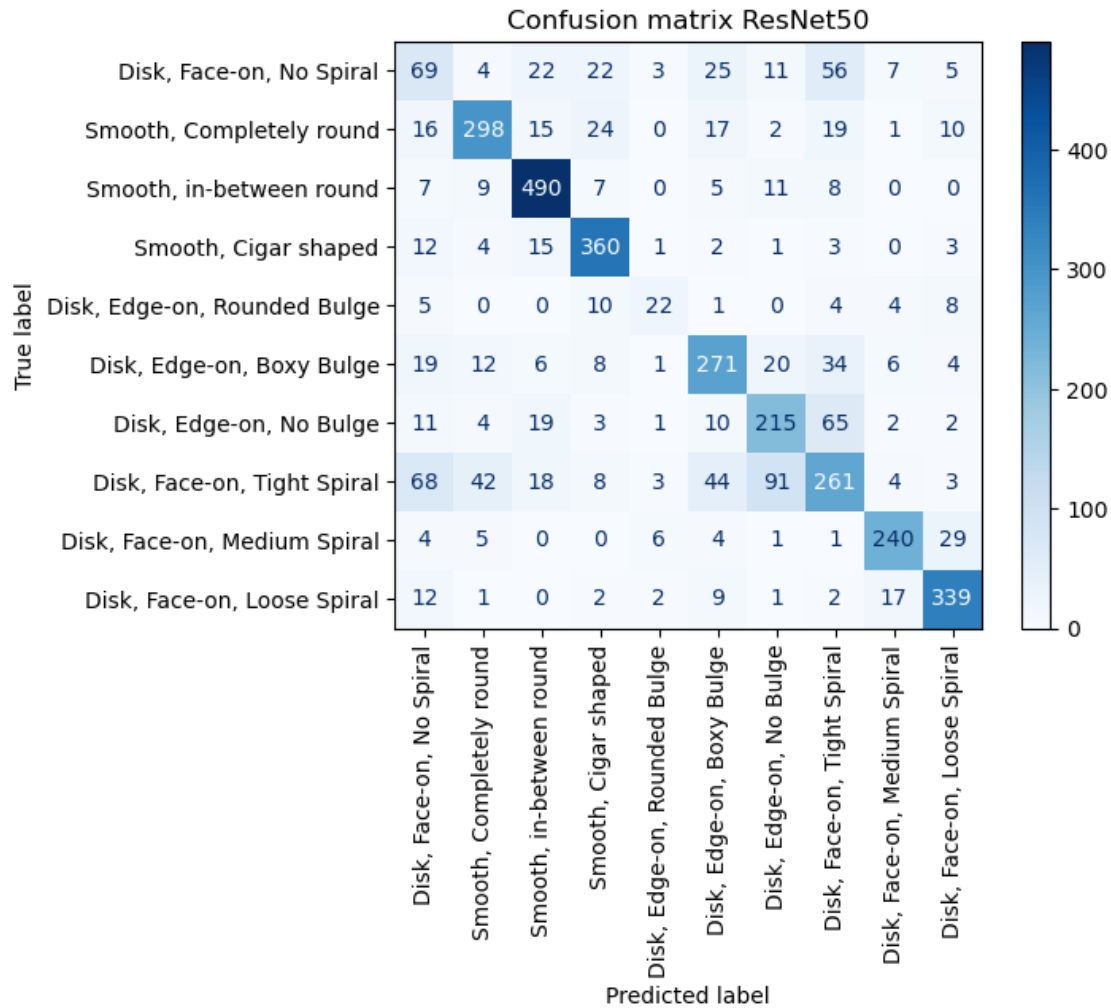
4.1 5.1. Nauka przy otwartych wszystkich warstwach

```
[7]: resultResNet50Full = pd.read_csv('./Results/ResNet50_full.csv')
ResNet50Full = confusion_matrix(resultResNet50Full['test'],
    ↪ resultResNet50Full['predict'])
dispResNet50Full = ConfusionMatrixDisplay(confusion_matrix=ResNet50Full,
    ↪ display_labels=features)
dispResNet50Full.plot(xticks_rotation=90, cmap=plt.cm.Blues)
plt.title('Confusion matrix ResNet50 full')
plt.savefig('./PictureConfusionMatrix/ResNet50_full.jpeg', dpi = 900,
    ↪ bbox_inches='tight')
plt.show()
```



4.2 5.2. Nauka przy otwartych połowie warstwach

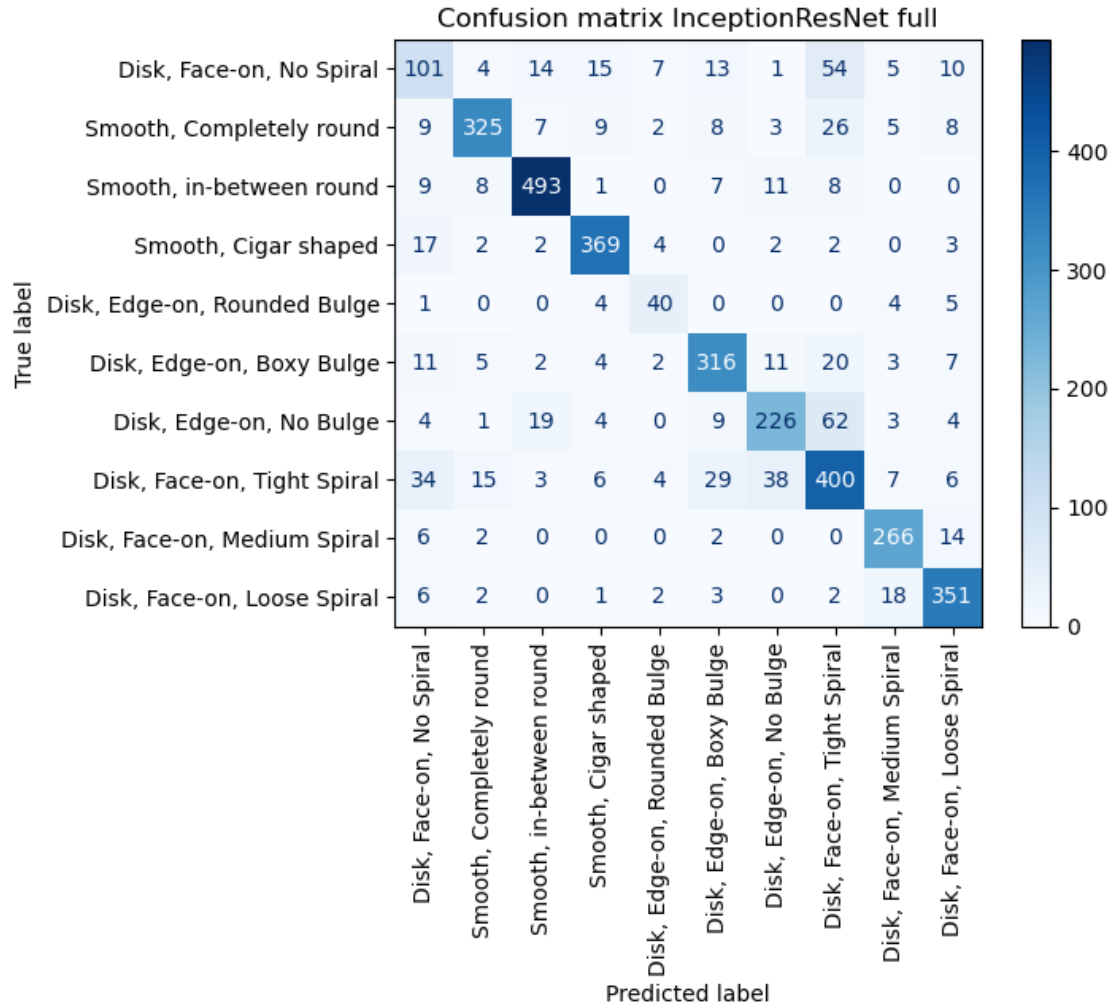
```
[8]: resultResNet50 = pd.read_csv('./Results/ResNet50.csv')
ResNet50 = confusion_matrix(resultResNet50['test'], resultResNet50['predict'])
dispResNet50 = ConfusionMatrixDisplay(confusion_matrix=ResNet50,
    ↪display_labels=features)
dispResNet50.plot(xticks_rotation=90,cmap=plt.cm.Blues)
plt.title('Confusion matrix ResNet50')
plt.savefig('./PictureConfusionMatrix/ResNet50.jpeg', dpi = 900,
    ↪bbox_inches='tight')
plt.show()
```



5 6. InceptionResNet

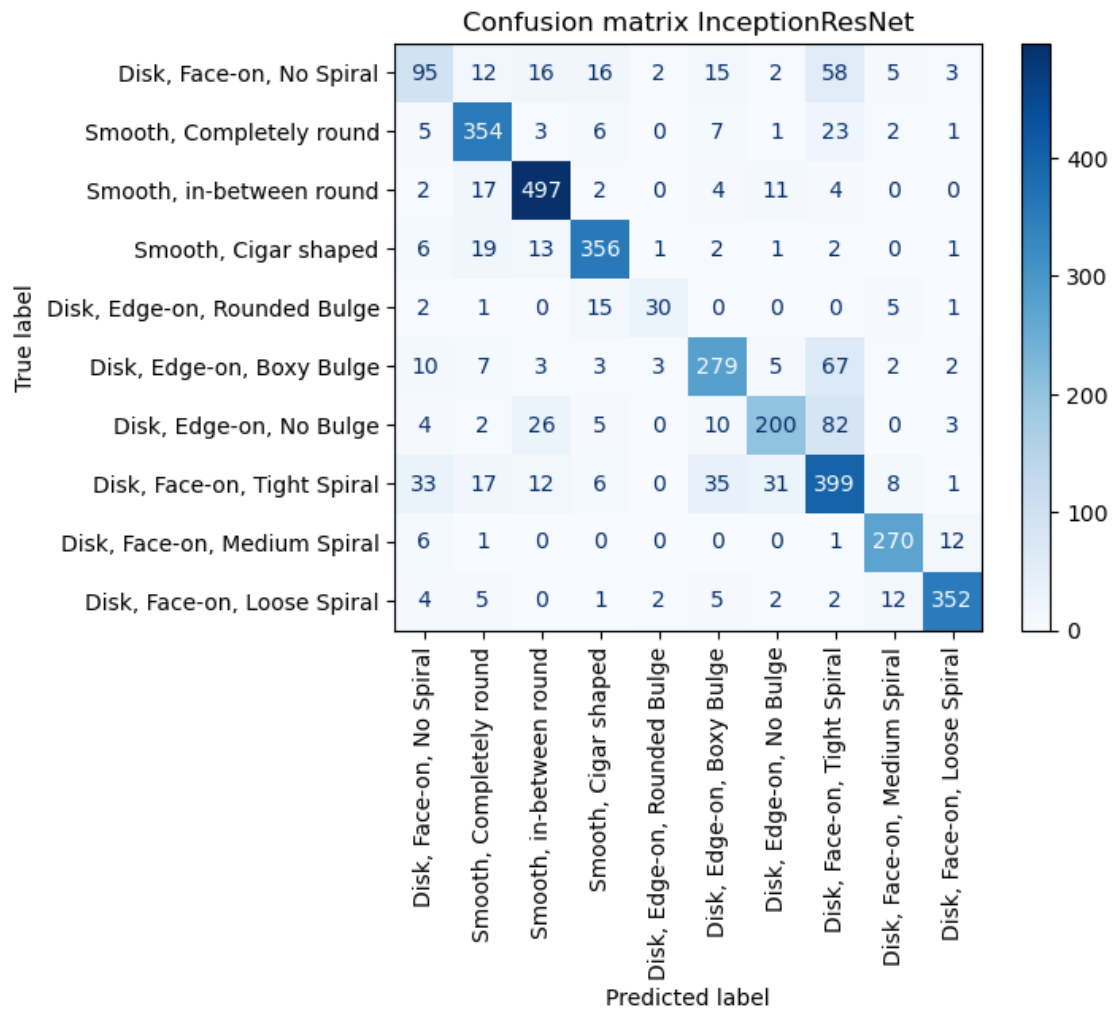
5.1 6.1. Nauka przy otwartych wszystkich warstwach

```
[9]: resultInceptionResNetFull = pd.read_csv('./Results/InceptionResNet_full.csv')
InceptionResNetFull = confusion_matrix(resultInceptionResNetFull['test'],
    ↪ resultInceptionResNetFull['predict'])
dispInceptionResNetFull =
    ↪ ConfusionMatrixDisplay(confusion_matrix=InceptionResNetFull,
    ↪ display_labels=features)
dispInceptionResNetFull.plot(xticks_rotation=90, cmap=plt.cm.Blues)
plt.title('Confusion matrix InceptionResNet full')
plt.savefig('./PictureConfusionMatrix/InceptionResNet_full.jpeg', dpi = 900,
    ↪ bbox_inches='tight')
plt.show()
```



5.2 6.2. Nauka przy otwartych połowie warstwach

```
[10]: resultInceptionResNet = pd.read_csv('./Results/InceptionResNet.csv')
InceptionResNet = confusion_matrix(resultInceptionResNet['test'],
    ↪ resultInceptionResNet['predict'])
dispInceptionResNetFull =
    ↪ ConfusionMatrixDisplay(confusion_matrix=InceptionResNet,
    ↪ display_labels=features)
dispInceptionResNetFull.plot(xticks_rotation=90, cmap=plt.cm.Blues)
plt.title('Confusion matrix InceptionResNet')
plt.savefig('./PictureConfusionMatrix/InceptionResNet.jpeg', dpi = 900,
    ↪ bbox_inches='tight')
plt.show()
```

[]: