WWMR Files to PyTorch Ready Data

The WWMR data has been filtered down to square images of faces of the target shape already.

Imports and info

In [13]:
```
import numpy as np
from PIL import Image
import matplotlib.pyplot as plt
import os
```

In [14]:
```
correct_dir = r'D:\data\face_mask\WWMR cropped MediaPipe\correct'
incorrect_dir = r'D:\data\face_mask\WWMR cropped MediaPipe\incorrect'
```

Load images as np arrays

In [15]:
```
# correctly worn

correctly_worn_list = []

for root, subdirectories, files in os.walk(correct_dir):
    for f in files:
        im_fp = os.path.join(correct_dir, f)
        im = Image.open(im_fp)
        im_arr = np.array(im)
        correctly_worn_list.append(im_arr)
```

In [16]:
```
len(correctly_worn_list)
```

Out[16]:
```
140
```

In [17]:
```
correct_X = np.array(correctly_worn_list)
correct_y = np.ones(len(correctly_worn_list)).astype(int)
```

In [18]:
```
# incorrectly worn

incorrectly_worn_list = []

for root, subdirectories, files in os.walk(incorrect_dir):
    for f in files:
        im_fp = os.path.join(incorrect_dir, f)
        im = Image.open(im_fp)
        im_arr = np.array(im)
        incorrectly_worn_list.append(im_arr)
```

In [19]:
```
incorrect_X = np.array(incorrectly_worn_list)
incorrect_y = np.zeros(len(incorrectly_worn_list)).astype(int)
```

Concat the correct and incorrect

In [20]:
```
incorrect_X.shape
```

Out[20]:
```
(420, 112, 112, 3)
```

In [21]:
```
WWMR_X = np.concatenate((incorrect_X, correct_X))
WWMR_y = np.concatenate((incorrect_y, correct_y))
```

In [22]:
```
WWMR_X.shape
```

Out[22]:
```
(560, 112, 112, 3)
```

In [23]:
```
WWMR_y.shape
```

Out[23]:
```
(560,)
```

Save the output

In [26]:
```
out_x = r'D:\data\face_mask\WWMR cropped MediaPipe\WWMR_X_for_model'
out_y = r'D:\data\face_mask\WWMR cropped MediaPipe\WWMR_y_for_model'

np.save(out_x, WWMR_X)
np.save(out_y, WWMR_y)
```

Resources

- loading an image
  - https://stackoverflow.com/questions/7762948/how-to-convert-an-rgb-image-to-numpy-array
- numpy docs
  - https://numpy.org/doc/stable/reference/generated/numpy.save.html