Resizing the images to fit CNN

In [1]:
```
import matplotlib.pyplot as plt
import matplotlib.image as mpimg
from PIL import Image, ImageOps
import PIL
import os
```

In [2]:
```
# Dataset locations
orig_incorrect = r'D:\data\face_mask\FaceMaskDetection_12k\Dataset\mask_weared_incorrect'
orig_correct = r'D:\data\face_mask\FaceMaskDetection_12k\Dataset\with_mask'
orig_without = r'D:\data\face_mask\FaceMaskDetection_12k\Dataset\without_mask'

crop_incorrect = r'D:\data\face_mask\FaceMaskDetection_12k\Cropped\mask_weared_incorrect'
crop_correct = r'D:\data\face_mask\FaceMaskDetection_12k\Cropped\with_mask'
crop_without = r'D:\data\face_mask\FaceMaskDetection_12k\Cropped\without_mask'
```

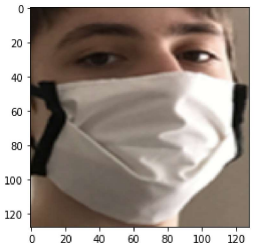
In [3]:
```
# set desired output
target_h = 112
target_w = target_h
```

Demonstrate one resize operation

In [4]:
```
img_num = 15
sample_input = os.path.join(orig_correct, '{}.png'.format(img_num))
```

In [5]:
```
input_img = Image.open(sample_input)
print(input_img.size)
plt.imshow(input_img)
```

Out[5]:
```
(128, 128)
<matplotlib.image.AxesImage at 0x1fb20c07348>
```



In [6]:
```
# resize
#output_img = input_img.resize((target_h, target_w), resample=PIL.Image.Resampling.HAMMING)
output_img = input_img.resize((target_h, target_w))
```

In [7]:
```
print(output_img.size)
plt.imshow(output_img)
```

Out[7]:
```
(112, 112)
<matplotlib.image.AxesImage at 0x1fb20e47cc8>
```

In [8]:
```
## Resizing all images
```

In [13]:
```
def resize_images_in_dir(input_dir, output_dir):
    counter = 0

    for root, subdirectories, files in os.walk(input_dir):
        for f in files:
            # construct paths
            orig_img_path = os.path.join(input_dir, f)
            out_img_path = os.path.join(output_dir, f)

            # load as an image into PIL form
            input_img = Image.open(orig_img_path)

            # resize
            output_img = input_img.resize((target_h, target_w))

            # save output
            output_img.save(out_img_path)

            counter += 1
            if counter % 200 == 0:
                print('{:>5}'.format(counter))
```

In [14]:
```
# masked images
resize_images_in_dir(orig_correct, crop_correct)
```

```
 200
 400
 600
 800
1000
1200
1400
1600
1800
2000
2200
2400
2600
2800
```

In [15]:
```
# incorrect masked images
resize_images_in_dir(orig_incorrect, crop_incorrect)
```

```
 200
 400
 600
 800
1000
1200
1400
1600
1800
2000
2200
2400
2600
2800
```

In [16]:
```
# no mask
resize_images_in_dir(orig_without, crop_without)
```

```
 200
 400
 600
 800
1000
1200
1400
1600
1800
2000
2200
2400
2600
2800
```