Blending Images

Kathryn Hollingshead

Example Code:

```
white = cv2.imread('cleo.jpg')
black = cv2.imread('flea.jpg')
mask = cv2.imread('mask3.jpg', 0)

#Display Original Images
_displayColor(black, "Black Image")
_displayColor(white, "White Image")
_displayGray(mask, "Mask Image")

def blend(black, white, mask):
   #Make Copies of Images
   b = np.copy(black)
   w = np.copy(white)
   m = np.copy(mask)

   bRows, bCols, bChs = b.shape
   wRows, wCols, wChs = w.shape
   mRows, mCols = m.shape

   #Check if size of images are the same
   if (bRows != wRows) or (bRows != mRows) or (bCols != wCols) or (bCols != mCols):
      print ("Images are NOT the same size.")

      #Check if black and white are same size.
      #If not the same, resize black to match white size
      if (bRows > wRows) or (bCols > wCols) or (wRows > bRows) or (wCols > bCols):
         b = cv2.resize(b, (wCols, wRows))
         _displayColor(b, "Resized Image")

      #Check if black and mask are same size.
      #If not the same, resize mask to match white size.
      if (bRows > mRows) or (bCols > mCols) or (mRows > bRows) or (mCols > bCols):
         m = cv2.resize(m, (wCols, wRows))
         _displayGray(m, "Resized Mask")

   else:
      print ("Images are the same size")
```

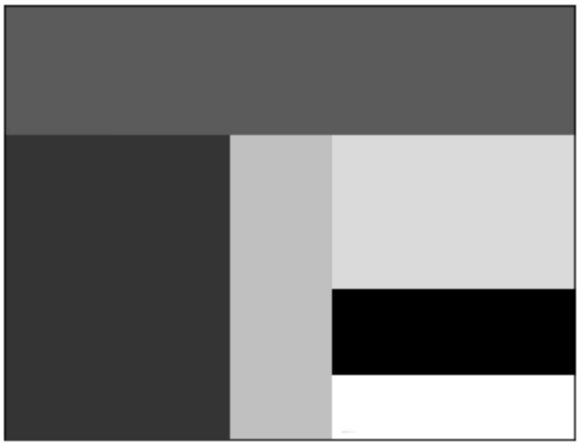
```
    #Check and Set Bend Values
    for x in range (wRows):
        for y in range (wCols):

            #Set Values
            if m[x][y] == 0: #All from Black Image
                b[x][y] = b[x][y]
            elif m[x][y] == 255: #All from White Image
                b[x][y] = w[x][y]
            else: #Set Value of the Percent of Pixel that Should be Taken from Each Image
                p = m[x][y] / 255 #Percent
                n = w[x][y] * p
                z = np.abs(100 - (p * 100))

                d = z / 100 #Turn Back into Decimal
                r = b[x][y] * d

                b[x][y] = n + r

    return b #End of blend()

blended = blend(black, white, mask)
_displayColor(blended, "Blended Image")
```

Output:

Black Image

White Image

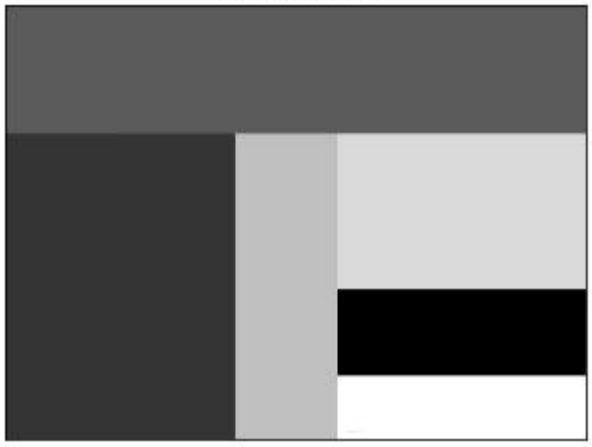
Mask Image



```
Images are NOT the same size.
```

Resized Image

Resized Mask

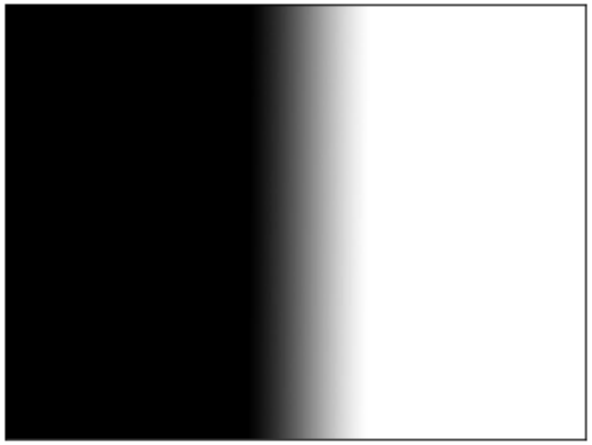


Blended Image

Black Image

White Image

Mask Image



```
Images are NOT the same size.
```

Resized Image

Resized Mask

Blended Image