Tasks 1 / 4: Load four arbitrary images and their corresponding segmentation masks and metadata

```python
Data_Path = "Data/Mini_BAGLS_dataset/"
all_Files = os.listdir(Data_Path)
all_File_Names = [file.split(".")[0] for file in all_Files if ".meta" in file]
for i in range(4) :
    name = all_File_Names[i]

    png_path = os.path.join(Data_Path + name + ".png")
    seg_path = os.path.join(Data_Path + name + "_seg.png")
    meta_path = os.path.join(Data_Path + name + ".meta")

    png_img = io.imread(png_path)
    img_seg = io.imread(seg_path)
    meta_file = open(meta_path)
    meta_data = json.load(meta_file)

    fig , ax1 = plt.subplots(1, 1, figsize=(5, 5))
    ax1.axis("off")
    ax1.set_title(meta_data["Subject disorder status"])
    plt.im SQL Console g, cmap='gray')
    plt.imshow(img_seg, cmap='jet', alpha=0.7)
plt.show()
```
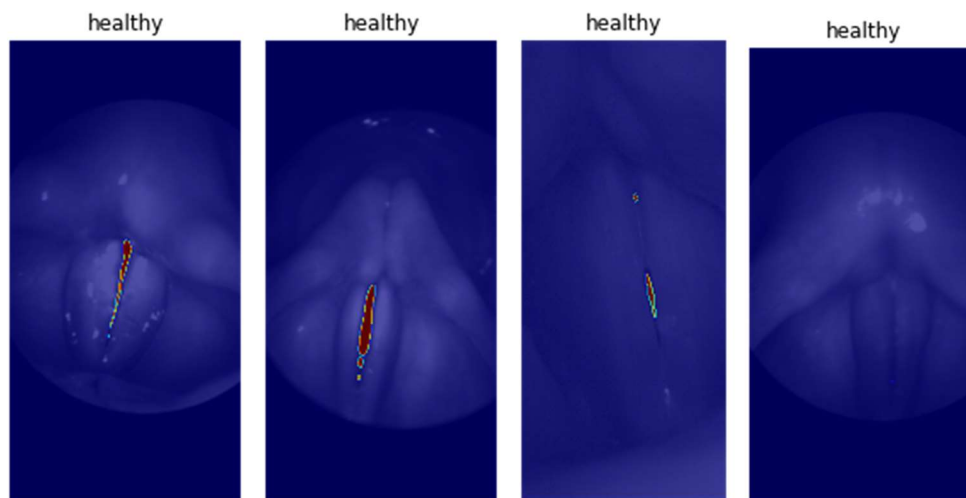
✓ 1.8s   Python

Task 2 / 4: Plot the images with the segmentation masks overlaid in a picture

Task 3 / 4: Convert an image from RGB to Grayscale

Task 4 / 4: which method for RGB to grayscale conversion is the preferred one? State in 1-2 sentences why you think this

- I think the Luminosity method is the preferred one. in the Lightness method we are taking the maximum and the minimum so it may be affected by noise. So, averaging is more robust to the noise. but the Luminosity is a weighted average to account for human perception. consequently, I think the Luminosity method is the best one.

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Code: https://github.com/amr1235/DSS/blob/main/exercise%201/exercise_1.ipynb