Report on 10.2-10.8

Shenyao Jin

I. Code Snapshot

```
# Homework 1, CV
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#%% Import libs
import numpy as np
import matplotlib.pyplot as plt
from skimage.io import imread
#%% Define data path
data_path = "./data/IMG_5167.jpeg"

#%% Load image
image = imread(data_path)
rotated_image = np.rot90(image, k=3) # Need to rotate the image
#%% Show image
plt.figure()
plt.imshow(rotated_image)
plt.axis("off")
plt.show()

#%% Change the dtype to float32 and convert into
image_float = rotated_image.astype(np.float32)
image_gray = np.dot(image_float, [0.299, 0.587,

#%% Show grayscale image
plt.figure()
plt.imshow(image_gray, cmap='gray')
plt.axis("off")
plt.show()

#%% Print the top left (3*5) pixels of the grays
print(image_gray[:3,:5])

#%% Print index=(1,2) of image_gray. We assume t
print(image_gray[0,1])
```

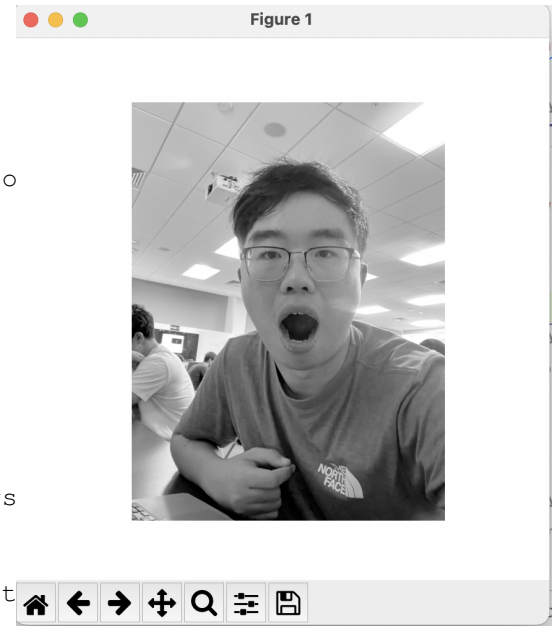

Fig. 1. Grayscale Image

II. Grayscale Image Snapshot

III. Pixel Values

A. Top Left 3x5 Matrix

```
[[179.789 180.789 177.789 172.789 170.789]
 [178.789 178.789 176.789 174.789 171.789]
 [179.789 178.789 177.789 177.789 177.789]]
```

B. Pixel at (1,2)

The value of the pixel at index (1,2) is 180.789.