

In [1]:

```
import cv2 as cv
import numpy as np
import matplotlib.pyplot as plt
import os
%matplotlib inline
```

In [2]:

```
def load(path):
    img=cv.imread(path)
    img=cv.cvtColor(img,cv.COLOR_BGR2RGB)
    return img
```

In [3]:

```
def display(img1,img2):
    fig=plt.figure(figsize=(12,18))
    ax=fig.add_subplot(221)
    ax.imshow(img1)
    ax=fig.add_subplot(222)
    ax.imshow(img2,cmap="gray")
    plt.show()
```

In [4]:

```
#experiment

img=cv.imread("/Users/mehradhq/Desktop/Screenshot 2022-05-11 at 11.18.35.png")
img_copy=img.copy()
img_copy=cv.cvtColor(img_copy,cv.COLOR_BGR2RGB)
img=cv.cvtColor(img,cv.COLOR_BGR2RGB)
img_gray=cv.cvtColor(img,cv.COLOR_BGR2GRAY)
rows=img.shape[0]
circles = cv.HoughCircles(img_gray, cv.HOUGH_GRADIENT, 1, rows/6, param1=100, param2=50, minRadius=5

if circles is not None:
    circles = np.uint16(np.around(circles))
    for i in circles[0, :]:
        center = (i[0], i[1])
        # circle center
        cv.circle(img_copy, center, 1, (100, 100, 100), 3)
        # circle outline
        radius = i[2]
        cv.circle(img_copy, center, radius, (0, 0, 250), 20)

display(img_copy,img)
```

