from google.colab import files

import cv2

import numpy as np

from matplotlib import pyplot as plt

from PIL import Image

import io

uploaded = files.upload()

filename = next(iter(uploaded))

image\_stream = io.BytesIO(uploaded[filename])

image\_pil = Image.open(image\_stream).convert("RGB")

image = cv2.cvtColor(np.array(image\_pil), cv2.COLOR\_RGB2BGR)

rotated\_clockwise = cv2.rotate(image, cv2.ROTATE\_90\_CLOCKWISE)

rotated\_counter = cv2.rotate(image, cv2.ROTATE\_90\_COUNTERCLOCKWISE)

image\_rgb = cv2.cvtColor(image, cv2.COLOR\_BGR2RGB)

clockwise\_rgb = cv2.cvtColor(rotated\_clockwise, cv2.COLOR\_BGR2RGB)

counter\_rgb = cv2.cvtColor(rotated\_counter, cv2.COLOR\_BGR2RGB)

plt.figure(figsize=(15,5))

plt.subplot(1, 3, 1)

plt.title('Original')

plt.imshow(image\_rgb)

plt.axis('off')

plt.subplot(1, 3, 2)

plt.title('Clockwise')

plt.imshow(clockwise\_rgb)

plt.axis('off')

plt.subplot(1, 3, 3)

plt.title('Counter-Clockwise')

plt.imshow(counter\_rgb)

plt.axis('off')

plt.show()

