

videorecdispRGBkey

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1 VideorecdispRGBkey

Program to capture a video from a camera and display Original and R,G,B components live on the screen, and switch them on and off with the keys r,g,b

- Gerald Schuller, November 2015

- **Import the relevant modules:**

```
In [ ]: import numpy as np
import cv2
```

```
cap = cv2.VideoCapture(0)
```

```
Ron=True
Gon=True
Bon=True
```

- **Start capturing, extract R, G, B components and display them back simultaneously: One can toggle the transformed components by pressing the following keys:**
 - Toggle Red component R - press 'r'
 - Toggle Blue component B - press 'b'
 - Toggle Green component G - press 'g'
- **Press 'q' to quit the open windows**

```
In [1]: while(True):
```

```
    # Capture frame-by-frame
    [ret, frame] = cap.read()
    cv2.imshow('Original',frame)
```

```
    #Null Setzen von Farb-Komponenten:
```

```
    if Ron==False:
```

```
        #Probeweise nur Farbkomponenten durch setzen von den Y-Komponenten auf einen festen
        frame[:, :, 2]=np.zeros(frame[:, :, 2].shape)
```

```

if Gon==False:
    frame[:, :, 1]=np.zeros(frame[:, :, 1].shape);
if Bon==False:
    frame[:, :, 0]=np.zeros(frame[:, :, 0].shape);

#Display resulting video
#Display text with
#putText(frame, text string, position, fontFace, fontScale, color, thickness)
cv2.putText(frame,"Key r: R comp. on/off, R on="+str(Ron), (20,50), cv2.FONT_HERSHEY_SIMPLEX, 1, (0,0,255))
cv2.putText(frame,"Key g: G comp. on/off, G on="+str(Gon), (20,100), cv2.FONT_HERSHEY_SIMPLEX, 1, (0,255,0))
cv2.putText(frame,"Key b: B comp. on/off, B on="+str(Bon), (20,150), cv2.FONT_HERSHEY_SIMPLEX, 1, (255,0,0))
cv2.imshow('Einzelne Komponenten',frame)

key=cv2.waitKey(1) & 0xFF;
if key == ord('r'):
    Ron= not Ron
if key == ord('g'):
    Gon= not Gon
if key == ord('b'):
    Bon= not Bon
if key == ord('q'):
    break

# When everything done, release the capture
cap.release()
cv2.destroyAllWindows()

```