videorecdctdisp

March 8, 2017

1 Videorecdctdisp

Program to capture a video from the default camera (0), compute the 2D DCT Type 2 on the Green component, take the magnitude (phase) and display it live on the screen

-Gerald Schuller, Nov. 2014

- **Import relevant modules:**

```
In [1]: import cv2
        import numpy as np
        import scipy.fftpack as sft
```

- **Instantiate capturing object:**

```
In [ ]: cap = cv2.VideoCapture(0)
```

- **Start capturing and apply 2D-DCT on each of the frames and display the 2D-DCT for the live capture:**
- **Press 'q' to quit the popped up windows:**

```
In [ ]: while(True):
            # Capture frame-by-frame
            [retval, frame] = cap.read()
            print(frame.shape)
            #compute magnitude of 2D DCT of green component
            #by applying the DCT first along the rows and the along the columns,
            #with suitable normalization for the display:
            frame=sft.dct(frame[:,:,1]/255.0,axis=1,norm='ortho')
            frame=np.abs(sft.dct(frame,axis=0,norm='ortho'))
            #angle/phase:
            #frame=(3.14+np.angle(np.fft.fft2(frame[:,:,1]/255.0)))/6.28
            # Display the resulting frame
            cv2.imshow('Betrag der 2D - DCT Typ 2 des Videos',frame)
            #Keep window open until key 'q' is pressed:
            if cv2.waitKey(1) & 0xFF == ord('q'):
                break
```

- **When everything's done then release the capture:**

```
In [ ]: cap.release()
        cv2.destroyAllWindows()
```