Zoom

April 28, 2019

In [1]:
```
import cv2
import numpy as np
```

In [2]:
```
img=cv2.imread('landscape.jpg',1)
out=np.zeros((img.shape[0]*2,img.shape[1]*2,img.shape[2]))
out2=np.zeros((img.shape[0]*2,img.shape[1]*2,img.shape[2]))
```

In [4]:
```
shp=img.shape
shp
```

Out[4]:
```
(290, 590, 3)
```

In [8]:
```
img[4]
```

Out[8]:
```
200
```

In [9]:
```
for i in range(shp[0]):
    out[2*i,:shp[1]]=np.copy(img[i,:])
```

In [ ]:

In [ ]:
```
for i in range(shp[0]):
        out[2*i,:shp[1]]=np.copy(img[i,:])

for j in range(shp[1]):
        out2[:,2*j]=np.copy(out[:,j])

out=np.copy(out2)

for i in range(img.shape[0]-1):
        out[2*i+1,:]=out[2*i,:]/2+out[2*i+2,:]/2

for j in range(img.shape[1]-1):
        out[:,2*j+1]=out[:,2*j]/2+out[:,2*j+2]/2

out[-1,:]=out[-2,:]
out[:,-1]=out[:,-2]

out=np.array(out, dtype = np.uint8)
```

```
cv2.imshow('image', img)
cv2.imshow('zoomed', out)
cv2.waitKey(0)
cv2.destroyAllWindows()
```