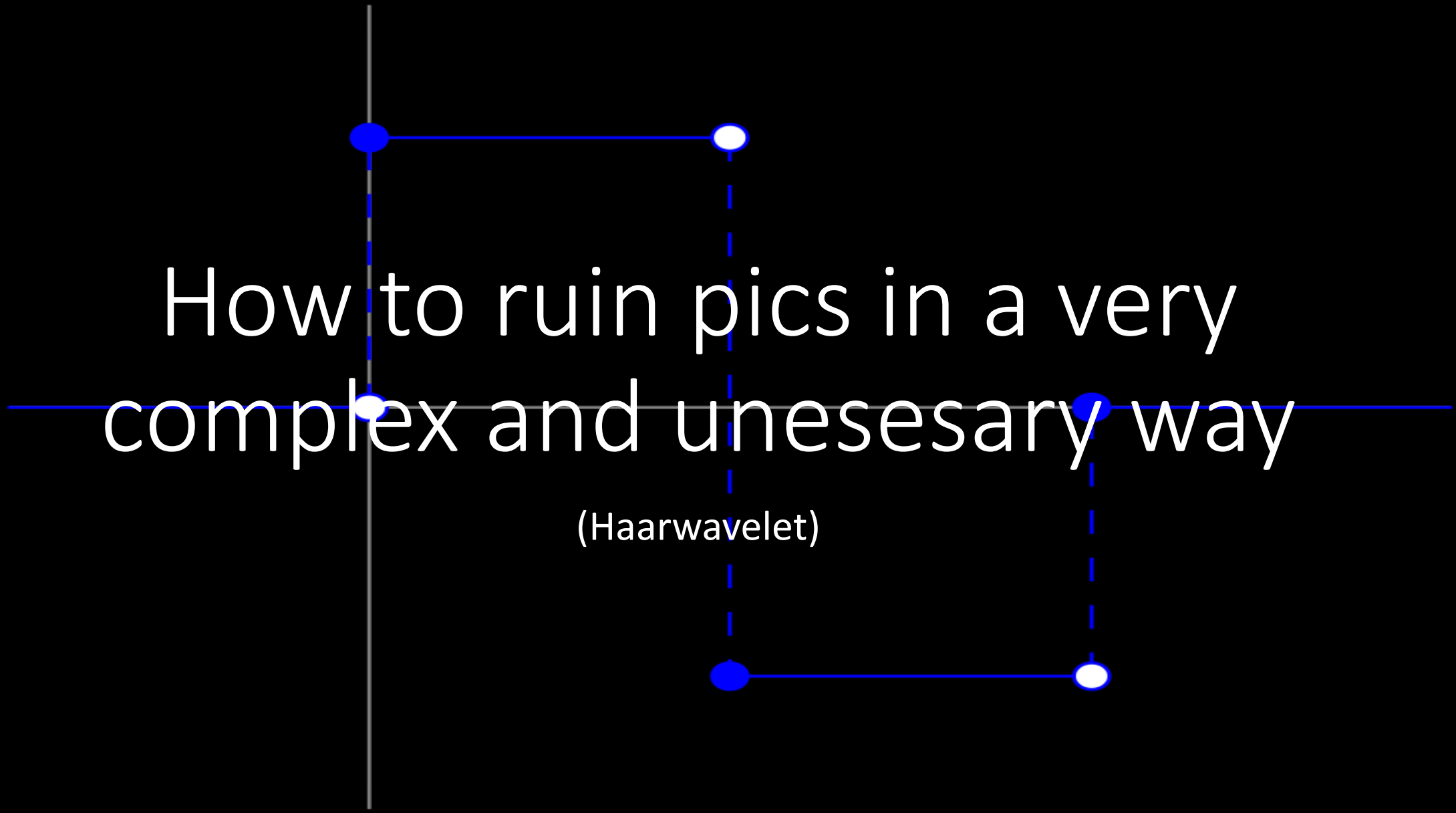


How to ruin pics in a very complex and unesesary way

(Haarwavelet)

Code

compression

```
13  def Converttoarray(x):
14      array=sm.imread(x , True)
15      if array.shape[0]%2==1:
16          array=array[:-1,:]
17          if array.shape[1]%2==1:
18              array=array[:,:-1]
19      elif array.shape[1]%2==1:
20          array=array[:,:-1]
21      return array
```

```
23  def HaarWavelet(array):
24      haararray=np.zeros((array.shape[0],array.shape[0]))
25      for i in range(haararray.shape[0]):
26          haararray[i//2,i]=sqrt(2)/2
27          haararray[-i//2-1,-i-1]=-sqrt(2)/2
28      for i in range(haararray.shape[0]//2):
29          haararray[-i-1,-2*i-1]=sqrt(2)/2
30      b=dot(haararray,array)
31      haararray1=np.zeros((array.shape[1],array.shape[1]))
32      for i in range(haararray1.shape[1]):
33          haararray1[i//2,i]=sqrt(2)/2
34          haararray1[-i//2-1,-i-1]=-sqrt(2)/2
35      for i in range(haararray1.shape[1]//2):
36          haararray1[-i-1,-2*i-1]=sqrt(2)/2
37      t=np.transpose(haararray1)
38      e=dot(b,t)
39      sm.imsave('AAA.jpg',e)
40      aa=e[:e.shape[0]//2,:e.shape[1]//2]
41      sm.imsave('aa.jpg',aa)
42      ab=e[:e.shape[0]//2,e.shape[1]//2:]
43      sm.imsave('ab.jpg',ab)
44      ac=e[e.shape[0]//2:,:e.shape[1]//2]
45      sm.imsave('ac.jpg',ac)
46      ad=e[e.shape[0]//2:,e.shape[1]//2:]
47      sm.imsave('ad.jpg',ad)
48      return e
```

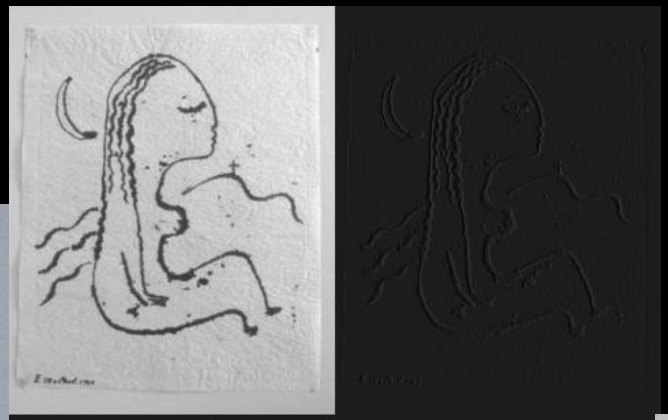
```
50  def Revert(array):
51      haararray=np.zeros((array.shape[0],array.shape[0]))
52      for i in range(haararray.shape[0]):
53          haararray[i//2,i]=sqrt(2)/2
54          haararray[-i//2-1,-i-1]=-sqrt(2)/2
55      for i in range(haararray.shape[0]//2):
56          haararray[-i-1,-2*i-1]=sqrt(2)/2
57      haararray1=np.zeros((array.shape[1],array.shape[1]))
58      for i in range(haararray1.shape[1]):
59          haararray1[i//2,i]=sqrt(2)/2
60          haararray1[-i//2-1,-i-1]=-sqrt(2)/2
61      for i in range(haararray1.shape[1]//2):
62          haararray1[-i-1,-2*i-1]=sqrt(2)/2
63      f=dot(np.transpose(haararray),dot(array,haararray1))
64      sm.imsave('AAC.jpg',f)
65      return print('hi')
66
67  def HaarIterate(array,t=1):
68      for i in range(t):
69          HaarWavelet(array)
70          array=Converttoarray('aa.jpg')
71      ab=Converttoarray('ab.jpg')
72      ac=Converttoarray('ac.jpg')
73      ad=Converttoarray('ad.jpg')
74      m=column_stack((array,ab))
75      n=column_stack((ac,ad))
76      mn=vstack((m,n))
77      return mn
```

Code

- Without

```
78
79  def Nomatrixcompress(array):
80      Non=zeros((array.shape[0],array.shape[1]))
81      for n in range((array.shape[0])//2-1):
82          for m in range((array.shape[1])//2-1):
83              Non[n,m]=(array[n*2,m*2]+array[n*2,2*m+1]+array[2*n+1,2*m]+array[2*n+1,2*m+1])/4
84              Non[n,array.shape[1]//2+m]=(-(array[2*n,2*m])+array[2*n,2*m+1]-array[2*n+1,2*m]+array[2*n+1,2*m+1])/4
85              Non[array.shape[0]//2+n,m]=(-(array[2*n,2*m])-array[2*n,2*m+1]+array[2*n+1,2*m]+array[2*n+1,2*m+1])/4
86              Non[array.shape[0]//2+n,array.shape[1]//2+m]=(-array[2*n,2*m]+array[2*n,2*m+1]+array[2*n+1,2*m]-array[2*n+1,2*m+1])/4
87      sm.imsave('AA#.jpg',Non)
88      Non=Non[:Non.shape[0]//2,:Non.shape[1]//2]
89      sm.imsave('AA#2.jpg',Non)
90
```

Original picture
40.1 KB
Compressed
19 KB
Cutaway
12 KB
Reverse
37 KB



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Reverse
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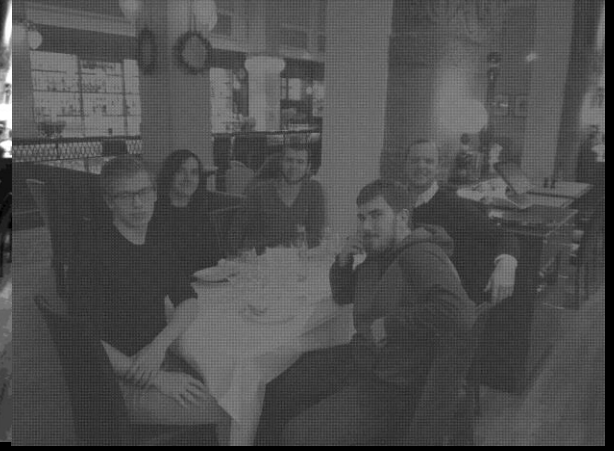

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Cutaway
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Reverse
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Group
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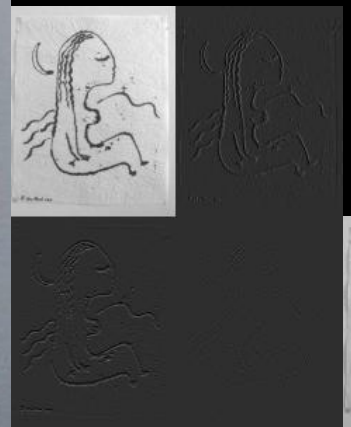

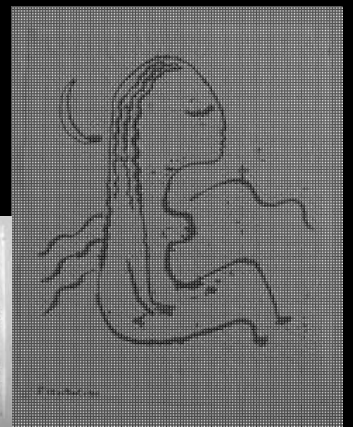

Comp 3x

Compressed 3x
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Cutaway
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Reverse
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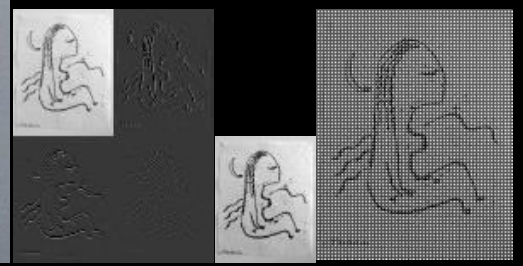

Group
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Compressed
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Cutaway
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Reverse
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Comp without matrix

Compressed 1x
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Cutaway
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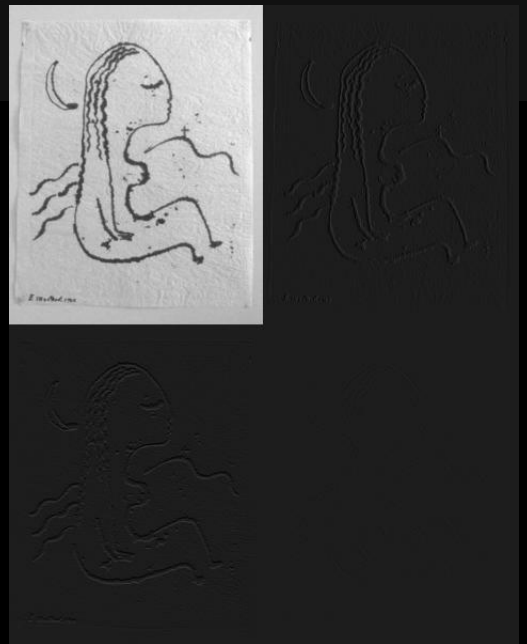
Group
Compressed
359 KB
Cutaway
225 KB



Without 2x

Kvinna
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Group
Compressed
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Cutaway
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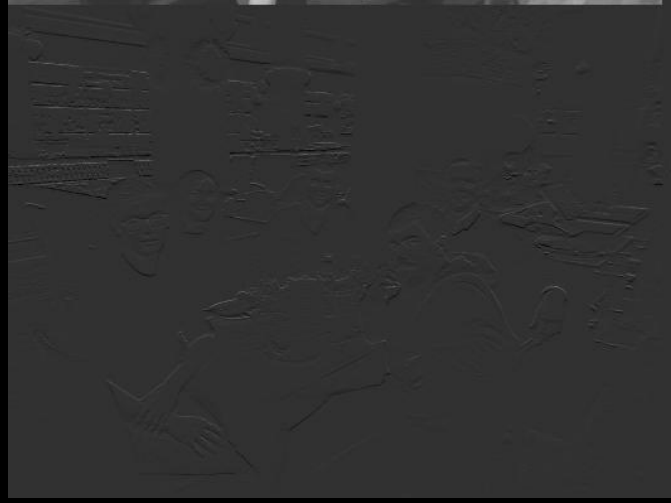
Without 3x



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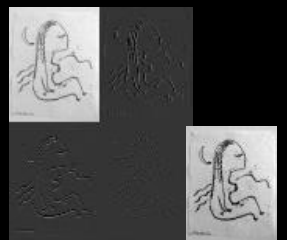

Time

- Difference
- Matrix
- Without Matrix

Method

- Mostly in group
- Divided the work

Demonstration time!!!!!!!!!!!!!