Python作业

1. import numpy as np

A=np.array([[1,0.5,5],[2.3,2,3],[4,1,1.7]],np.int32)

from numpy.linalg import inv

b=np.numpy([[1,2,3]],np.int32)

x=np.multiply(inv(A),b)

print(x)

2. from PIL import Image

import numpy as np

vec\_e1 = np.pi/2.2

vec\_az = np.pi/4

depth = 5

im = Image.open('本人.jpg').convert('L')

a = np.asarray(im).astype('float')

grad = np.gradient(a)

grad\_x, grad\_y = grad

grad\_x = grad\_x \* depth/100

grad\_y = grad\_y \* depth/100

dx = np.cos(vec\_e1) \* np.cos(vec\_az)

dy = np.cos(vec\_e1) \* np.sin(vec\_az)

dz = np.sin(vec\_e1)

A = np.sqrt(grad\_x\*\*2 + grad\_y\*\*2 + 1.)

uni\_x = grad\_x/A

uni\_y = grad\_y/A

uni\_z = 1./A

a2 = 255\*(dx \* uni\_x + dy \* uni\_y + dz \* uni\_z)

a2 = a2.clip(0,255)

im2 = Image.fromarray(a2.astype('uint8'))

im2.save('本人.jpg')

