

# CS 6476: Computer Vision

## Fall 2019 PS3

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While the shape of `cc1.npy` and `cc2.npy` is  $N \times 2$ , other shape of `.npy` file are all  $2 \times N$ . Thus, if you want to run `computeH.py`, you should do the transpose operation. You can see this step in the comments. Additionally, you can see the normalize operation in `normalizeHomogeneous.py`. What is more, in order to make things easier, you can see the code for the last question in `warplmg_bill.py` and others in `warplmage.py`. The python file of the extra points named `rectifyImage`.

4.  
For `crop.jpg`

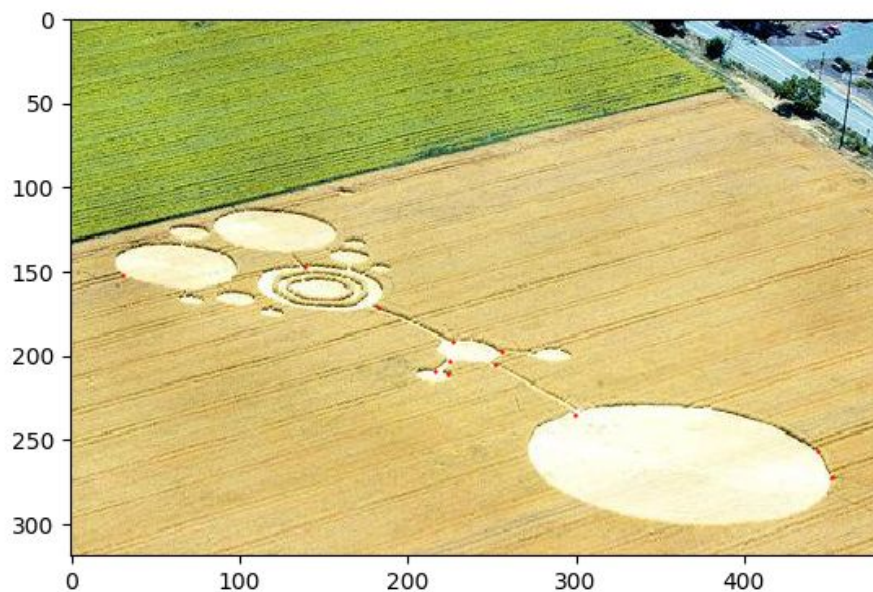
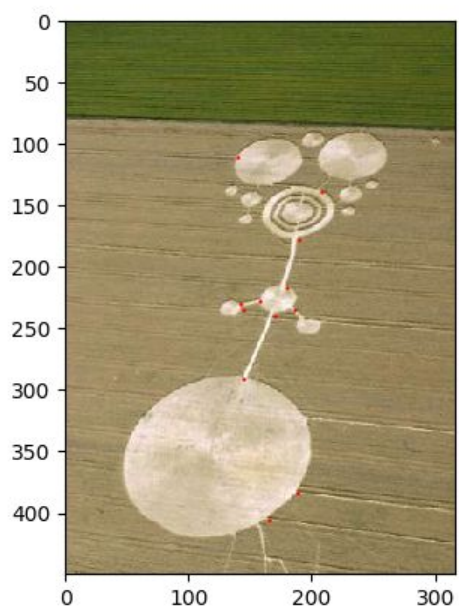
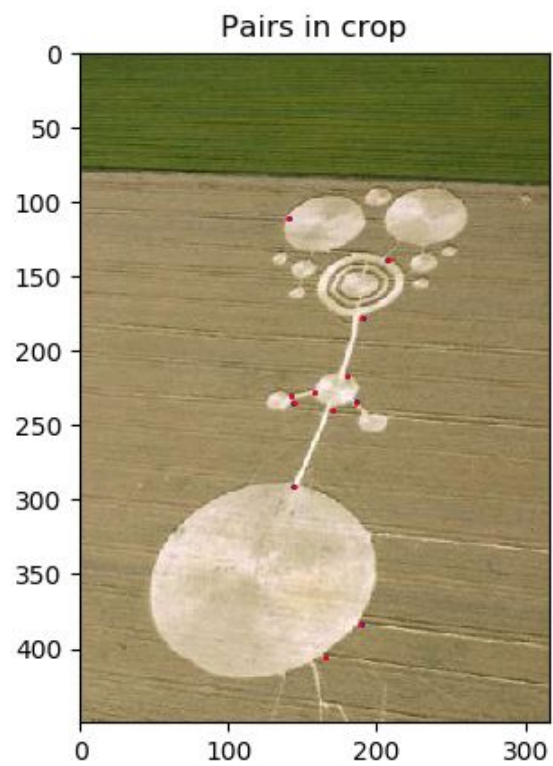


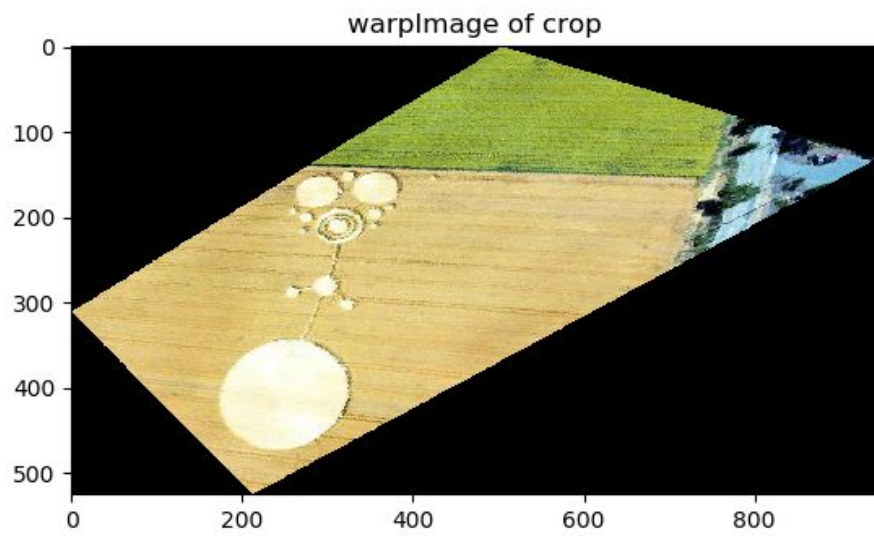
Figure1 Input image and points\_1



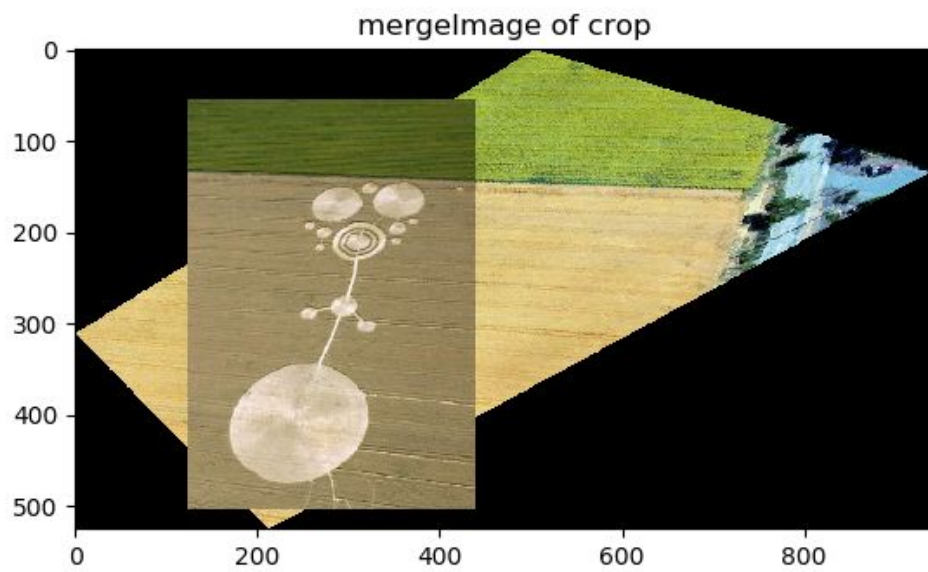
**Figure2 merge image and points\_2**



**Figure3 Correspond pairs. Blue one is the compute result and red one is the points in cc2.npy. They are close to each other.**



**Figure4 Warped image**

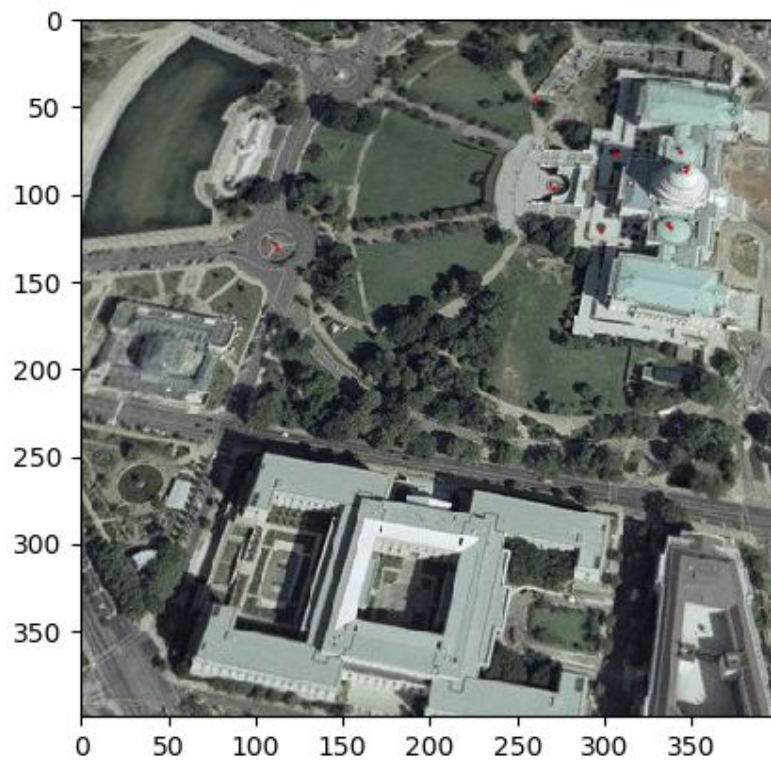


**Figure5 Image mosaics**

For wdc.jpg

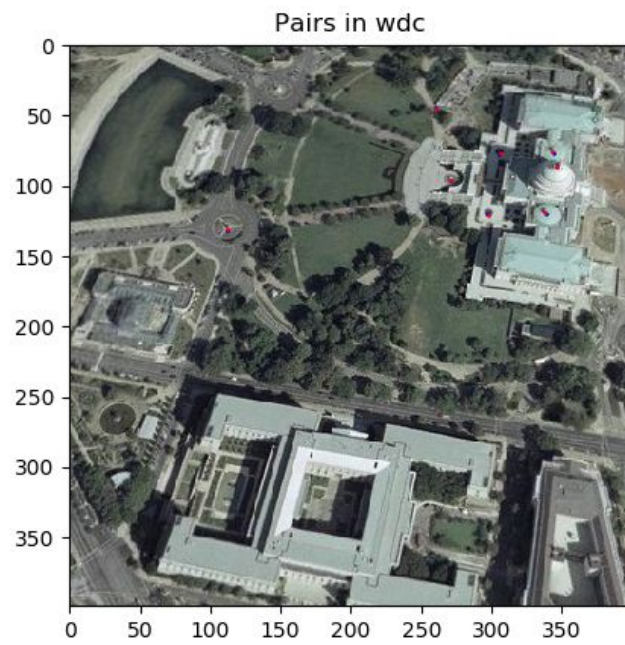


**Figure6** Input image points\_1

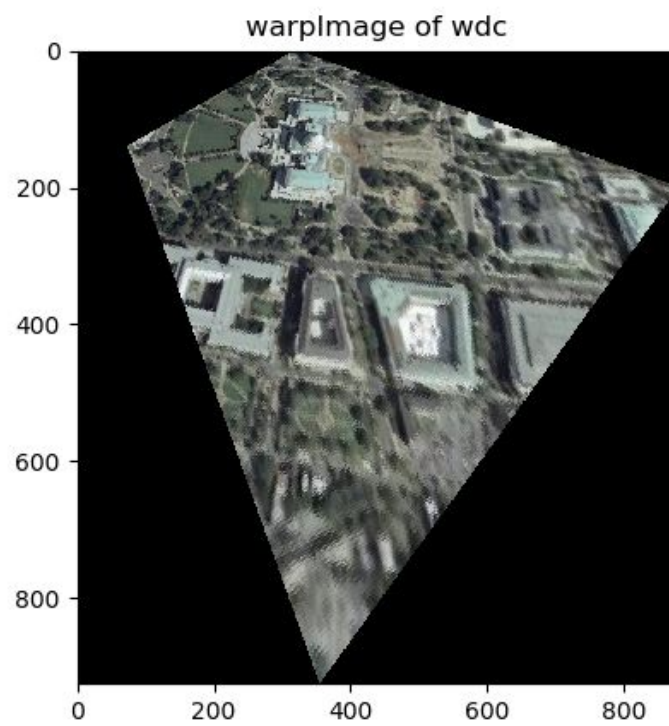


**Figur7** merge image points\_2

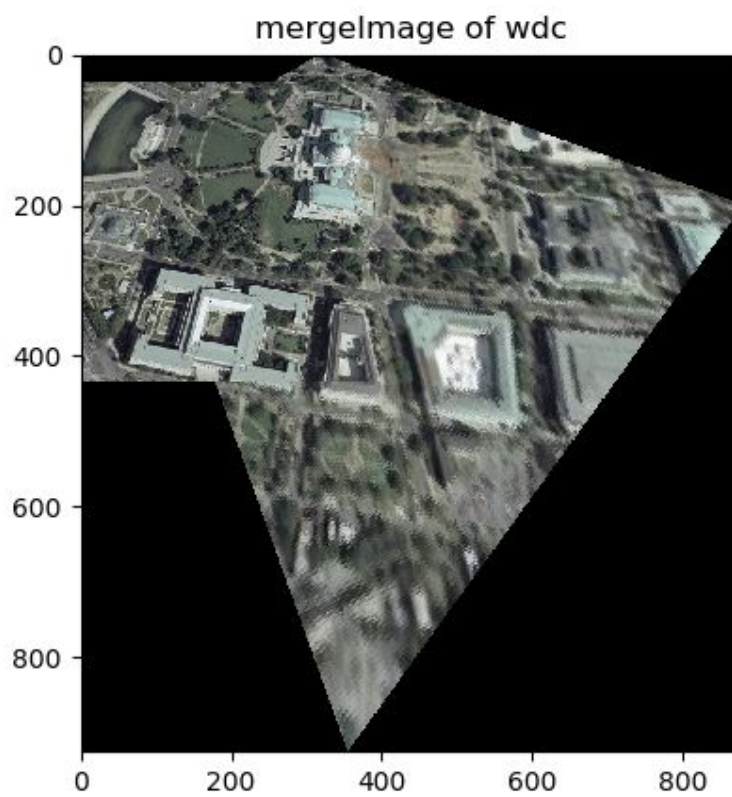




**Figure8** Correspond pairs. Blue one is the compute result and red one is the points in points2.npy.They are close to each other.

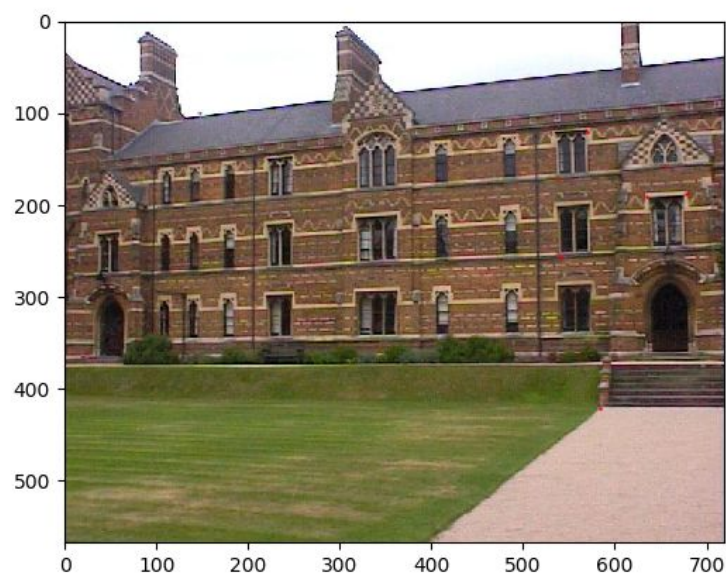


**Figure9** Warped Image

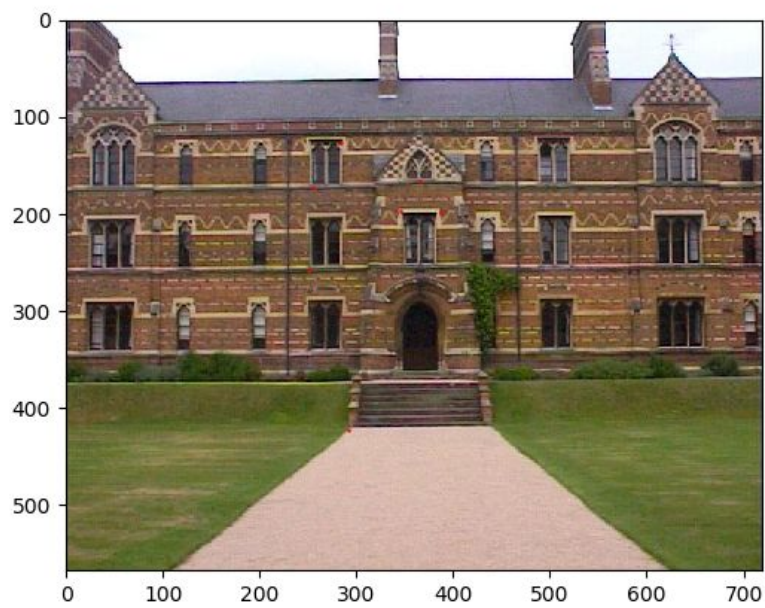


**Figure10 Image mosaics**

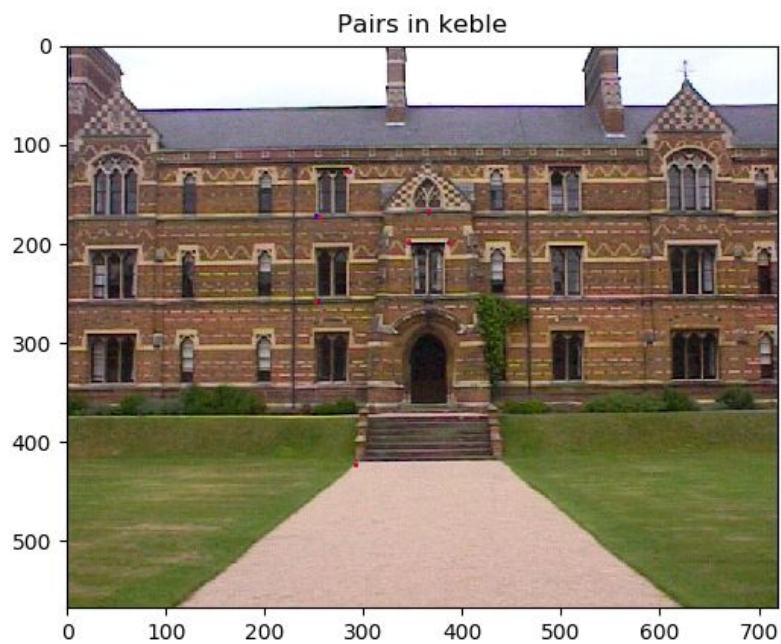
**5. Since we choose points manually, there may be some tiny error between input image and merge image.**



**Figure11 Input Image pairs\_1**



**Figure12 Merge Image pairs\_2**



**Figure13** Correspond pairs. Blue one is the compute result and red one is the points in points2\_keble.npy. They are close to each other.

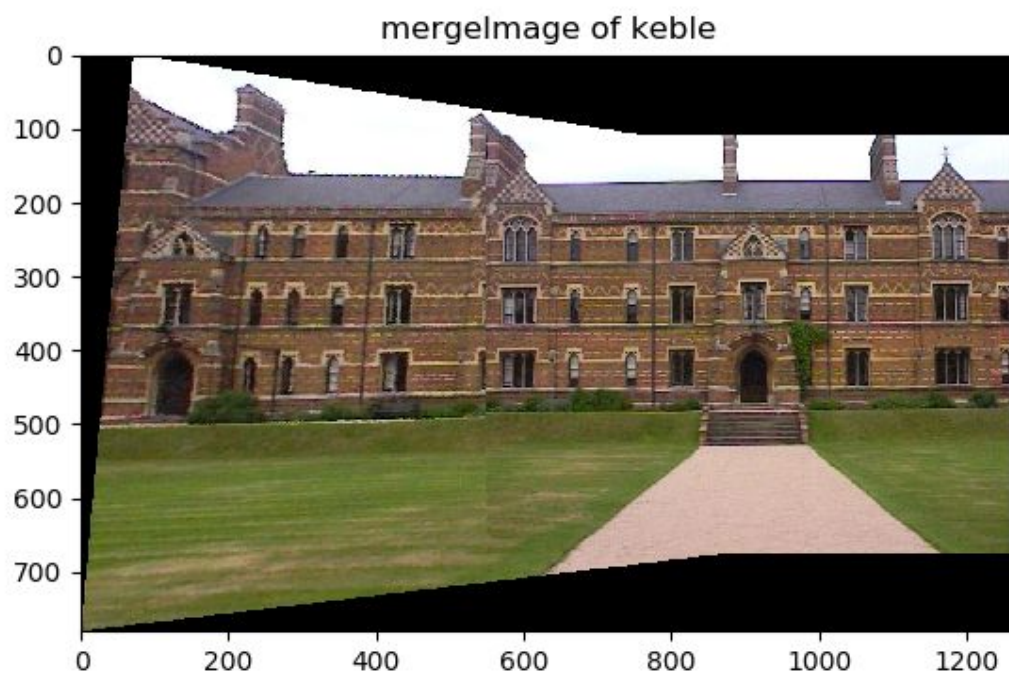


Figure14 Image mosaic

6.

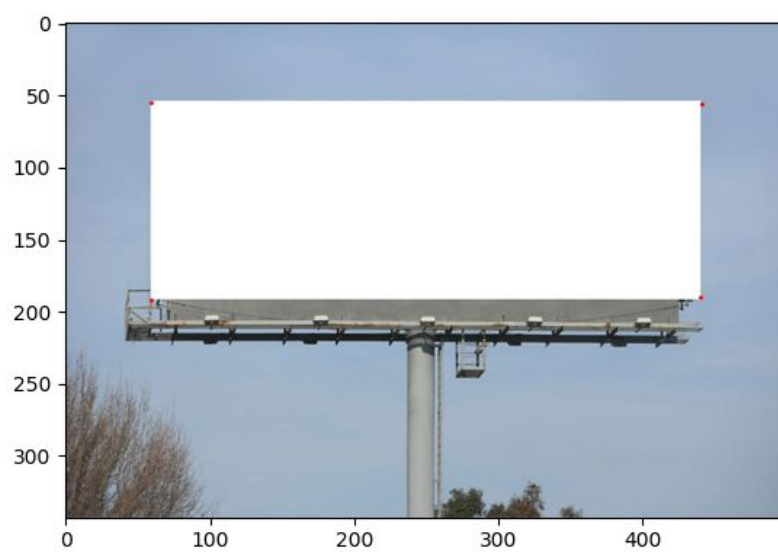


Figure15 Input image pairs\_1





Figure16 Merge image pairs\_2

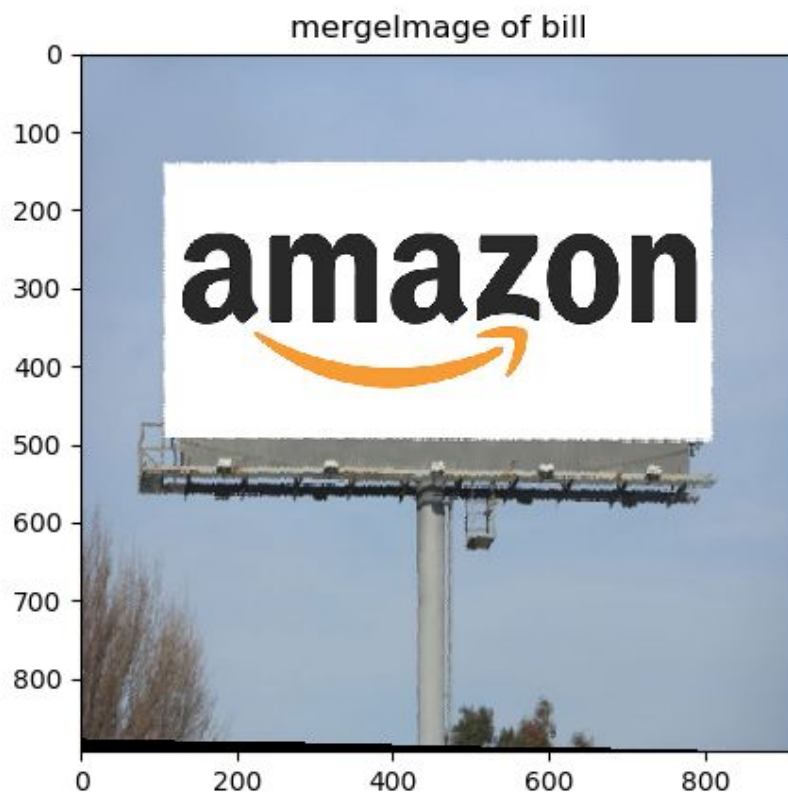


Figure17 mosaic image

Extra

1. rectify

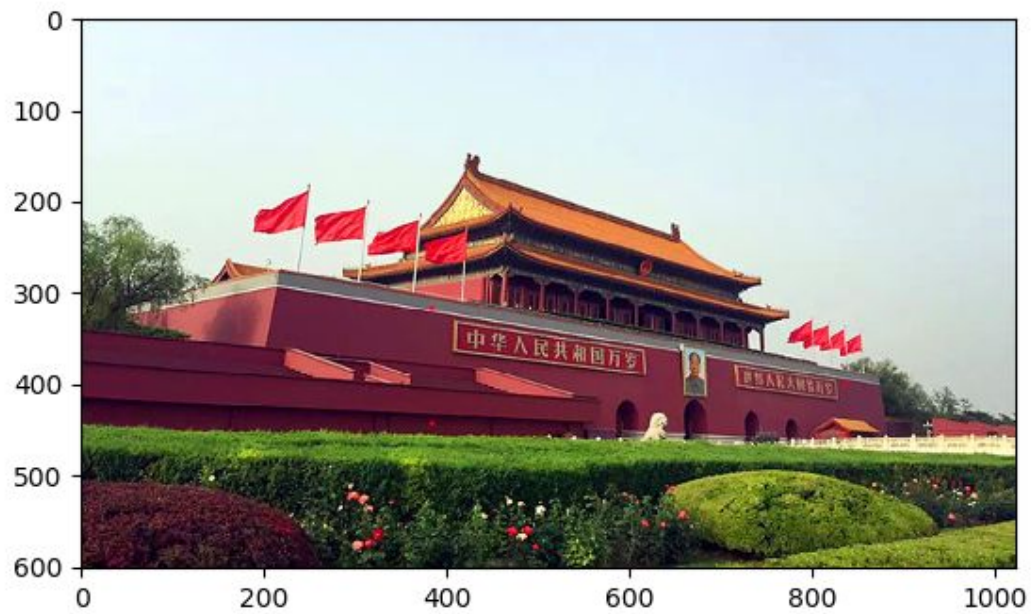


Figure18 input image and points

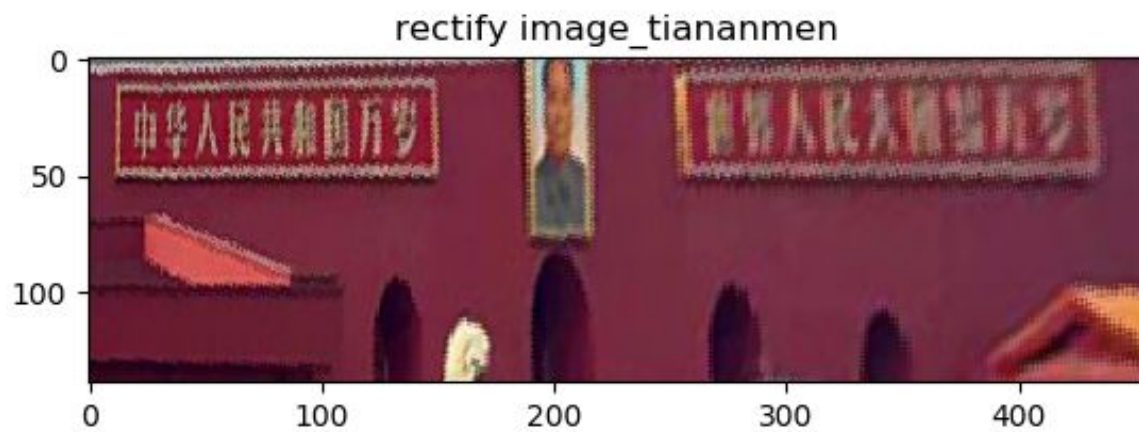


Figure19 rectify image