

How to find panda in the blur image?

Following is a noised image with a panda in it, I will find the panda with image processing method.

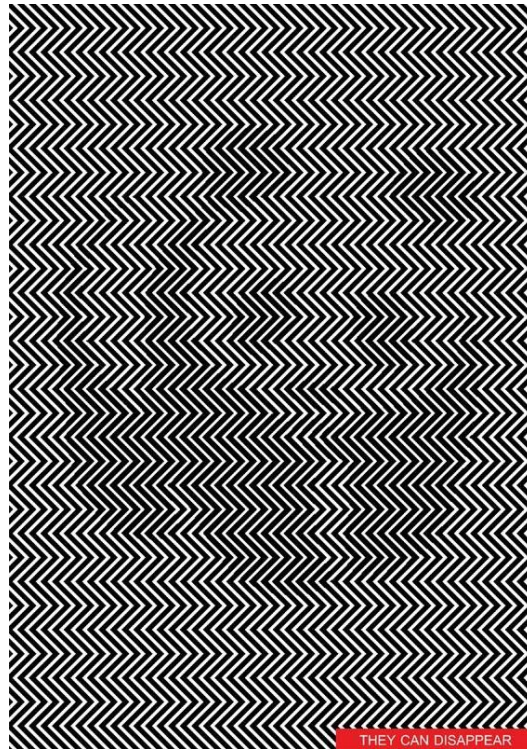


Fig 1.Original image(there is a panda figure in it)

Step 1.

Fourier transformation, then we get following frequent image:

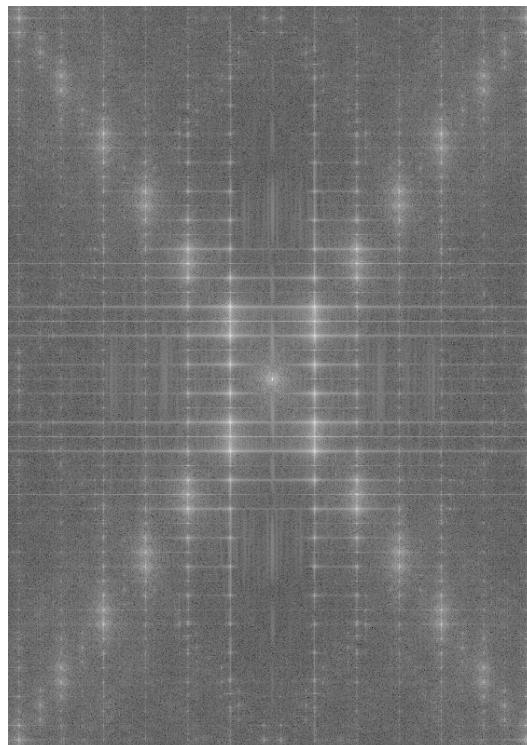


Fig 2. Frequency image

Step 2:

We only use the part around with red rectangle, and set other part 0, like following image:

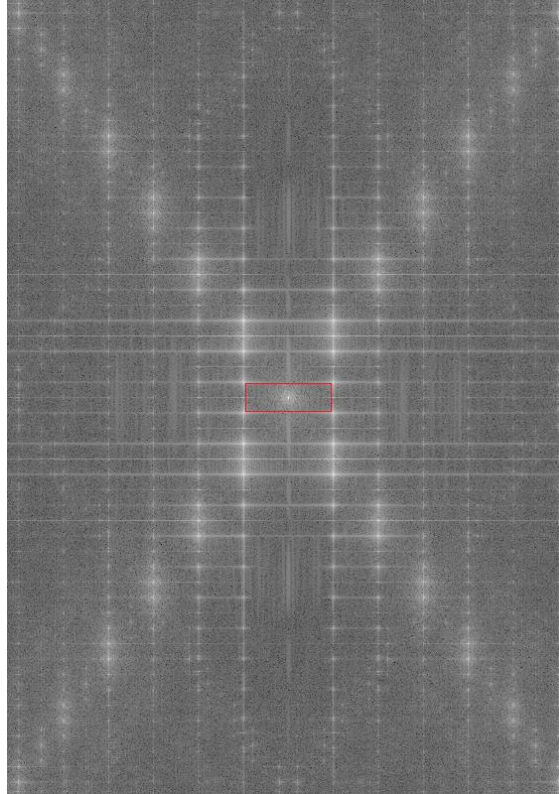


Fig 3. ROI(Low pass Filter)

Step 3. Inverse Fourier transformation



Fig 4.Inverse Fourier Transformation

Step 4. Filter image with Gaussian filter:



Fig 5.Gaussian filter

Step 5.Close Operation, get the Panda image:



Fig 6.Result panda image