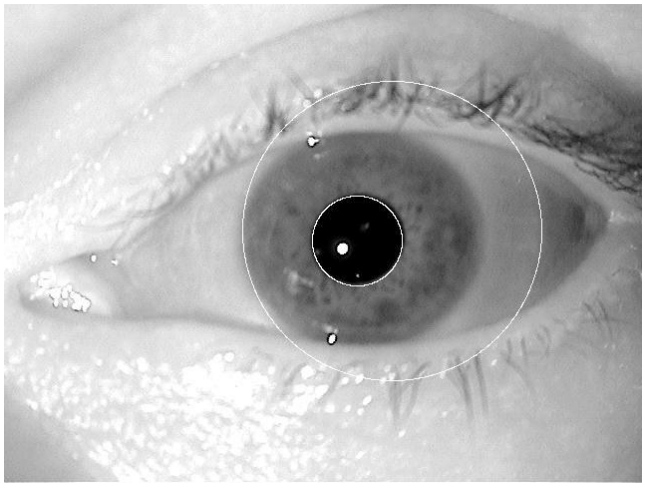
8.

(1)

the segmentation

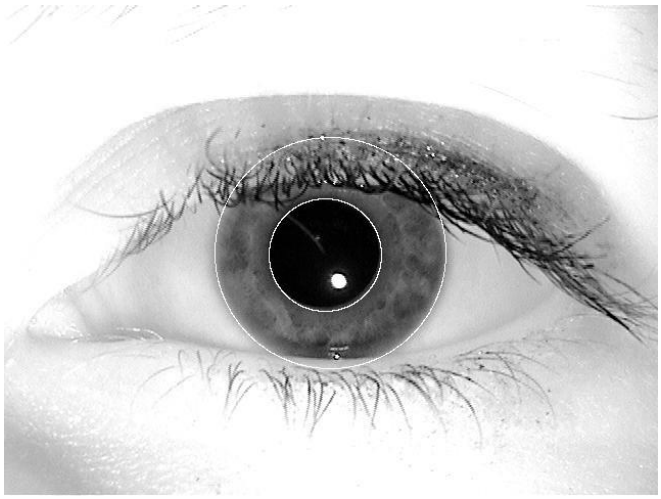


noise masking

iris coding

(2)

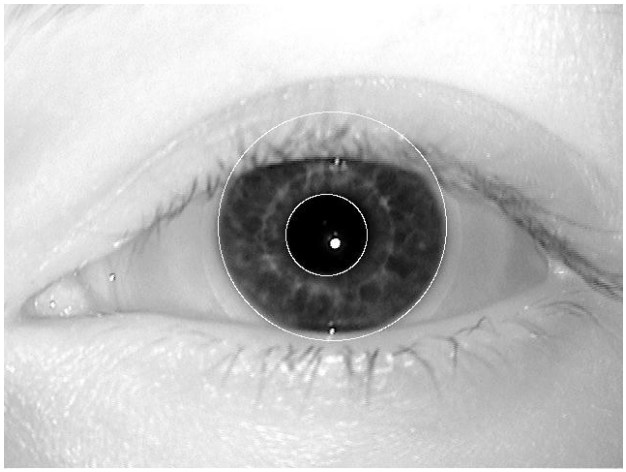
the segmentation



noise masking

iris coding

(3)
the segmentation



noise masking

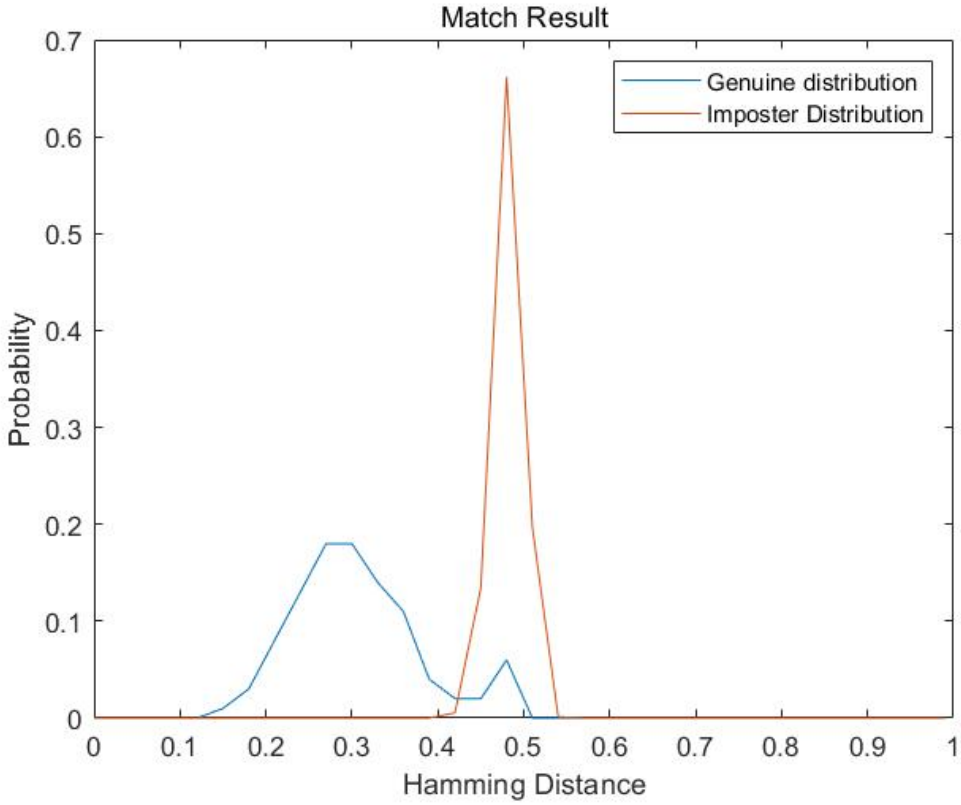
iris coding

9.
genuine distribution:
mean 0.289812
standard deviation 0.073171

imposter distribution
mean 0.466834
standard deviation 0.015641

mean difference 0.177022
std difference 0.057530

10.

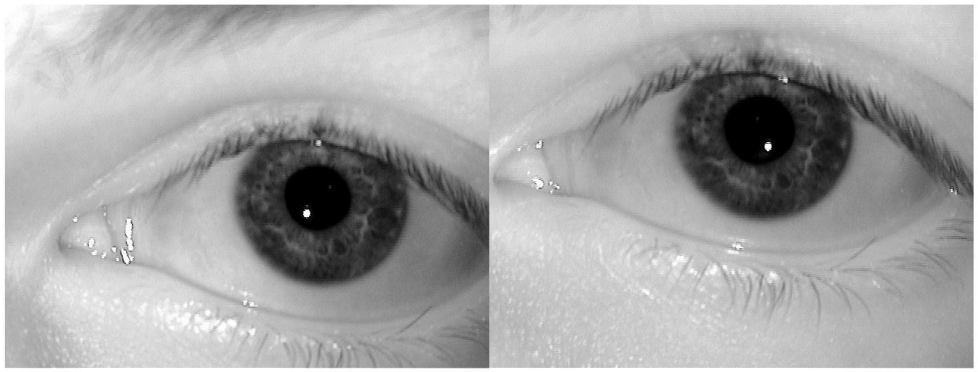


11.

Two distributions are separated well with a little bit of overlap, so it's a easy set to match.

12.

No.97

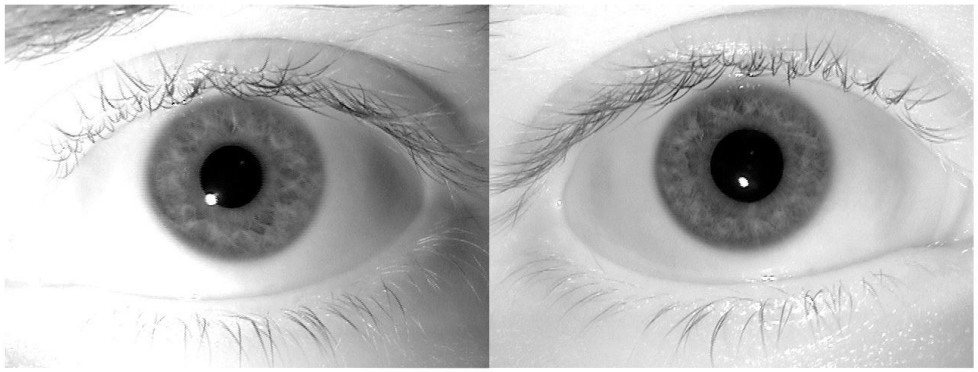


Eyelids at the similar position.

Almost no occlusion from eyelashes and strands of hair.

Almost no specular reflections, even light.

13.
No.84

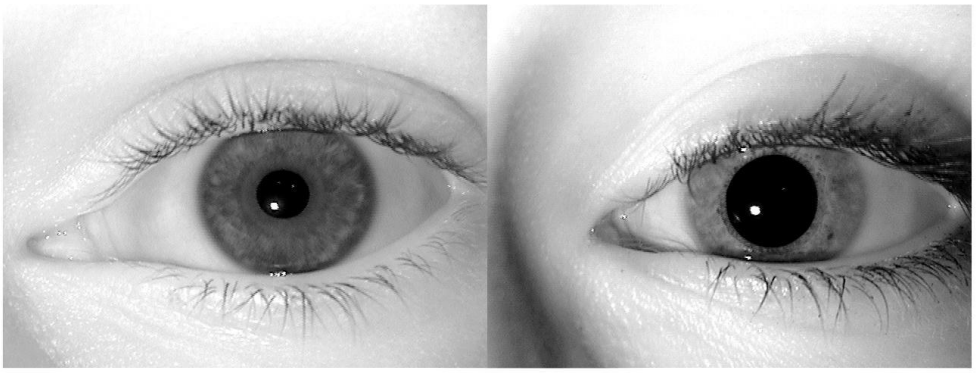


Illumination vary and specular reflections.
Difference in pupil dilation.

14.
No.47 in gallery and no.18 in probe.

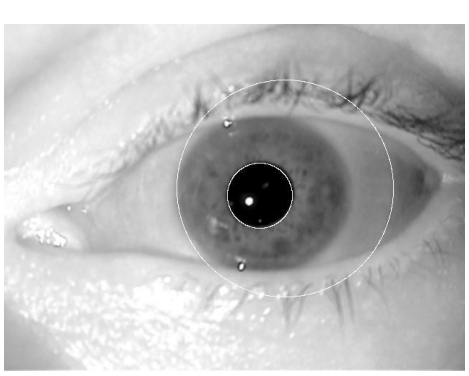
Due to being heavily covered by eyelids and eyelashes, the iris code remaining to be compared are both short, so the hamming distance would not be too large. Besides their iris have some similarity, such as similar pupil dilation.

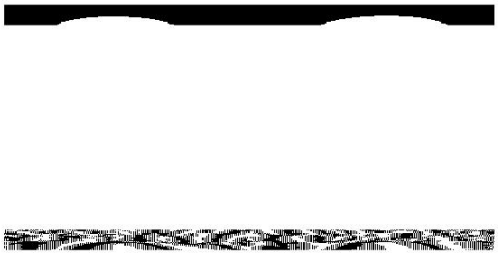
15
No.45 in gallery and no.71 in probe.

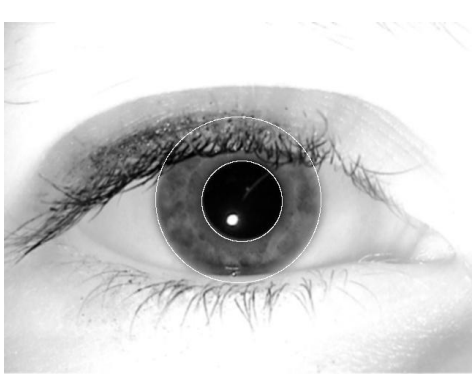


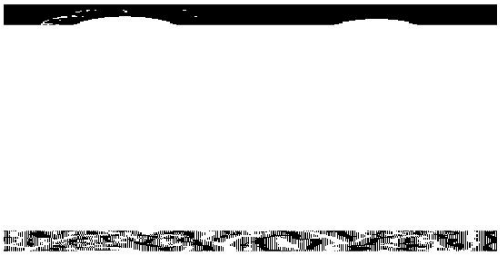
The difference between two pupil dilations is extremely large.

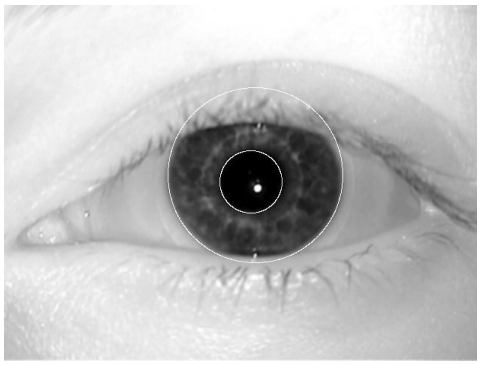
Extra credit.
8.

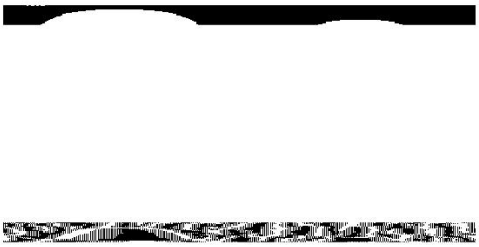










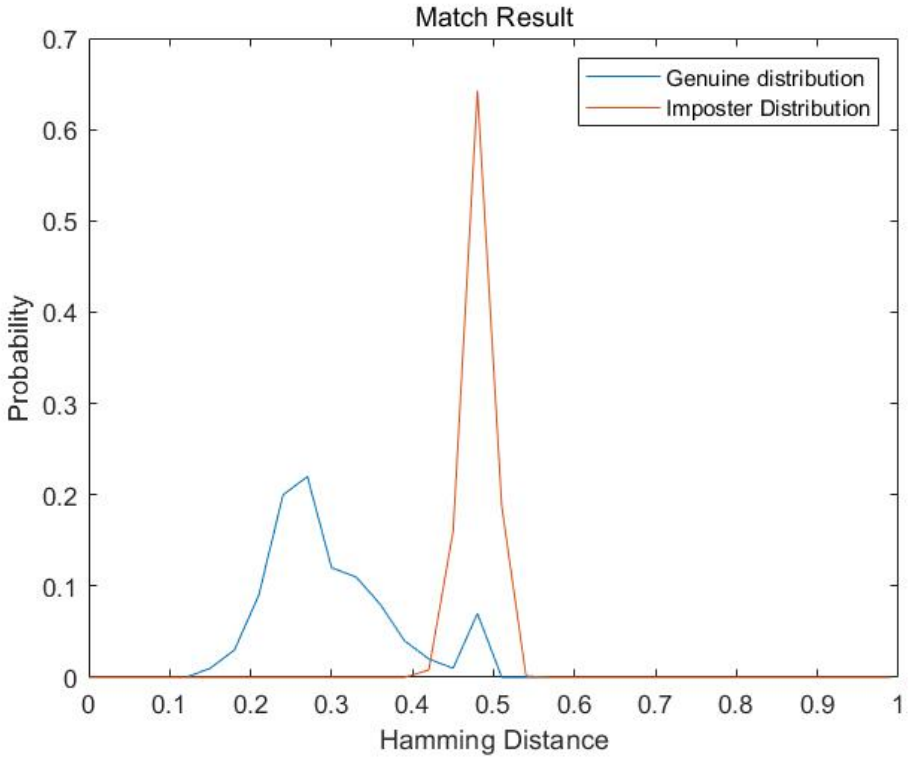


9.
genuine distribution:
mean 0.289812
standard deviation 0.073171

imposter distribution
mean 0.465628
standard deviation 0.016371

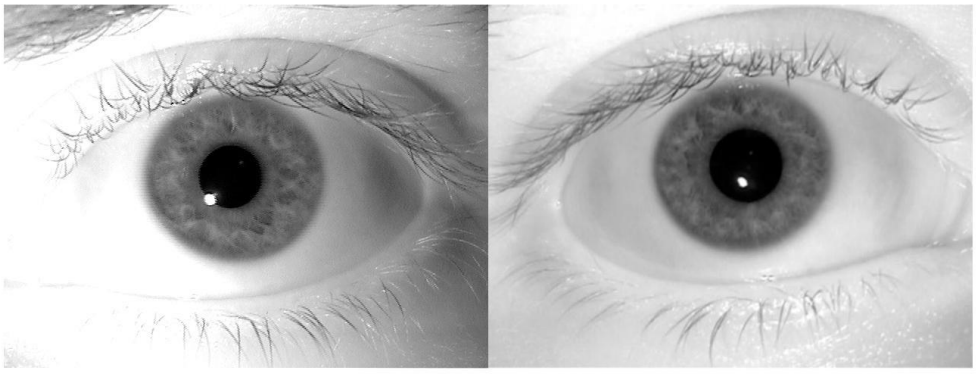
mean difference 0.175816
std difference 0.056800

10.



11.
It's still an easy set to match.

12. 13.
Still no.97 and no.84 and the same reason.

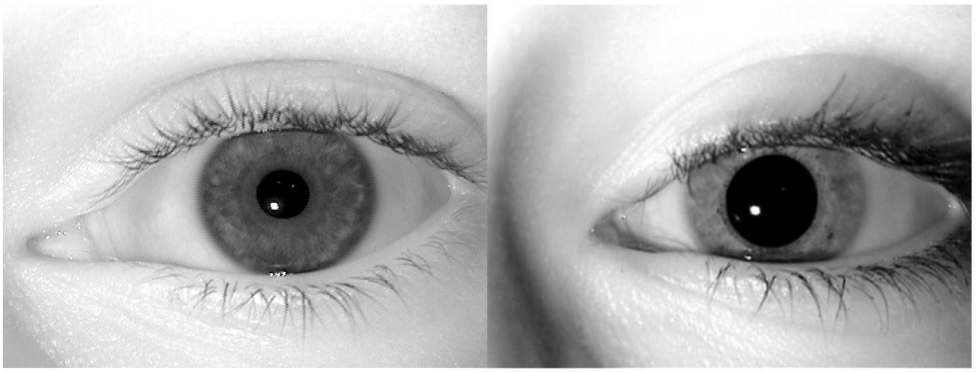


14.
No.38 in gallery and no.27 in probe.

The lightning condition is not so well in the gallery so it's slightly blurry. Besides, they are similar in pupil dilation and specular reflections.

15.

Still no.45 in gallery and no.71 in probe. Blurring would affect the large pupil dilation difference.



Answers to the questions.

1. There isn't a significant performance drop.
2. Except the lowest scoring imposter pairs, other results are the same.
3. A 5*5 mean filter's effect is less influential compared to other significant factors such as pupil dilation and masking of the eyelashes. What's more, a small mean filter wouldn't affect these factors as well.
4. The gallery images should be blurred using the same filter as well, or the pre-processing would be asymmetric.