

Service Note on CASIA Iris Image Databases

1. Note on CASIA-IrisV3

CASIA Iris Image Database Version 3.0 (CASIA-IrisV3) is probably the largest and the most widely used iris image database publicly available to iris recognition researchers. It has been released to more than 2,900 users from 70 countries or regions since 2006.

Recently we have found two bugs in one of the subsets of CASIA-IrisV3, i.e., subset CASIA-IrisV3-Interval. The bugs and their corrections are described in the following. We thank Professor Jaihie Kim and his team of Yonsei University for bringing these bugs to our attention. Apologies for this overlook and the inconvenience it may cause.

Bug 1: Five iris images, namely S1038L01, S1008R02, S1156L02, S1181R01, and S1158R06 were labeled with wrong IDs.

Correction: Rename file "S1038L01.jpg" to "S1224L11.jpg"
Rename file "S1008R02.jpg" to "S1008L11.jpg"
Rename file "S1156L02.jpg" to "S1156R06.jpg"
Delete file "S1181R01.jpg"
Delete file "S1158R06.jpg"

Bug 2: A number of iris images from the same eye are identical.

Because the iris images in CASIA-IrisV3-Interval were captured with a very high frame rate and at a very close range, iris images in the following groups are found to be identical:

- 1) S1008R05, S1008R08
- 2) S1011L02, S1011L09
- 3) S1024R01, S1024R03
- 4) S1024R02, S1024R04, S1024R05
- 5) S1026R01, S1026R03, S1026R05
- 6) S1037R01, S1037R03, S1037R05
- 7) S1043R05, S1043R10
- 8) S1053L01, S1053L10
- 9) S1162R01, S1162R05
- 10) S1182L06, S1182L09
- 11) S1223R01, S1223R02

Correction:

- 1) Delete the file "S1008R08.jpg" and rename the file "S1008R09.jpg" as "S1008R08.jpg";
- 2) Delete the file "S1011L09.jpg" and rename the file "S1011L10.jpg" as "S1011L09.jpg";
- 3) Delete the file "S1024R03.jpg";
- 4) Delete the files "S1024R04.jpg" and "S1024R05.jpg";

- 5) Delete the files "S1026R03.jpg" and "S1026R05.jpg", and rename the file "S1026R04.jpg" as "S1026R03.jpg";
- 6) Delete the files "S1037R03.jpg" and "S1037R05.jpg", and rename the file "S1037R04.jpg" as "S1037R03.jpg";
- 7) Delete the file "S1043R10.jpg";
- 8) Delete the file "S1053L10.jpg" and rename the file "S1053L14.jpg" as "S1053L10.jpg";
- 9) Delete the file "S1162R05.jpg" and rename the file "S1162R11.jpg" as "S1162R05.jpg";
- 10) Delete the file "S1182L09.jpg" and rename the file "S1182L10.jpg" as "S1182L09.jpg";
- 11) Delete the file "S1223R02.jpg" and rename the file "S1223R04.jpg" as "S1223R02.jpg";

After correction, the number of iris images in CASIA-IrisV3-Interval is 2,639 and the number of iris images in CASIA-IrisV3 is 22,035.

Note: The bugs and corrections are only applied to the file "CASIA-IrisV3.rar" downloaded before August 31, 2009.

2. Note on CASIA Iris Image Database V1.0

CASIA Iris Image Database Version 1.0 (or CASIA Iris-V1) is probably the first iris image database publicly available to iris recognition researchers and has been widely used. In a recent comment article (P. Jonathon Phillips, Kevin W. Bowyer, Patrick J. Flynn, "Comments on the CASIA Version 1.0 Iris Data Set", *IEEE Trans. Pattern Analysis Machine Intelligence*, Vol. 29, No. 10, pp.1869-1870, 2007), Phillips, Bowyer and Flynn made some comments about CASIA Iris-V1. It appears that these comments have caused some confusion and misunderstanding within the biometrics community regarding whether and how CASIA Iris-V1 should be used in the future. As we mentioned in a recent paper (Zhenan Sun and Tieniu Tan, "Ordinal Measures for Iris Recognition", *IEEE Trans. Pattern Analysis Machine Intelligence*, published online 25 Sep. 2008), the pre-processing of replacing the pupil regions of all iris images in CASIA Iris-V1 with a circular region of constant intensity to mask out the specular reflections from the NIR illuminators before public release is for protecting our IPR in the design of the iris camera (especially the NIR illumination scheme) at that time. Such pre-processing, which should visually be fairly obvious to iris recognition researchers, simplifies pupil detection (or makes pupil detection unnecessary) but has basically no effects on iris feature extraction since iris feature extraction only uses the image data in the region between the pupil and the sclera (i.e. the ring-shaped iris region). Therefore, CASIA Iris-V1 is perfectly fine for the evaluation of iris feature extraction algorithms, which is the intended purpose of the release of CASIA Iris-V1.

3. Pre-announcement Note on CASIA-IrisV4

CASIA-IrisV4 with three new subsets will be released soon. We will keep our users informed.

It is our intention and determination to provide easy and convenient access to quality iris image databases in order to promote activities in the exciting area of Iris Recognition. We therefore look forward to comments or suggestions from all users of the CASIA Iris Image Databases. Please feel free to contact us by email (casia_iris@nlpr.ia.ac.cn).

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