DETAILS OF MULTI-SOURCE CROSS-POPULATION AGE ESTIMATION EXPERIMENT IN OUR ICIP 2016 PAPER

Hong Liu, Xiaohu Sun

Key Laboratory of Machine Perception, Shenzhen Graduate School, Peking University, China
{hongliu,xiaohusun}@pku.edu.cn

1. DETAILS

Because in [1], some details of their multi-source cross-population age estimation experiment are missing, we put the details of our multi-source cross-population age estimation experiment here to avoid further confusion and for easily comparison between works. Please refer to [1, 2] for preparing to read the following content.

In our ICIP 2016 paper [3], we set the "percentage of training data in the target population for training" [1] to 50%, i.e. we compare with the MAEs in the last column of Table 3 of [1]. Table 3 of our paper [3] shows the comparison results.

Take the first case BF+WF→BM as the example, the MAE we reported, 4.36 years [3], is an average of the following 4-fold cross validation.

Table 1: The 4-fold cross-validation corresponding to the BF+WF→BM case in Table 3 of [1] (one possibility)

Train			Test
BF_1 (1285)	WF_1 (1285)	%50 of BM_2 (1990)	BM_1 (3980)
BF_1 (1285)	WF_1 (1285)	%50 of BM_1 (1990)	BM_2 (3980)
BF_2 (1285)	WF_2 (1285)	%50 of BM_2 (1990)	BM_1 (3980)
BF_2 (1285)	WF_2 (1285)	%50 of BM_1 (1990)	BM_2 (3980)

The description "percentage of training data in the target population for training" in [1] is ambiguous. There is another possible explanation for the description. Also take the first case, BF+WF→BM as the example, the 4-fold cross validation may also be:

Table 2: The 4-fold cross-validation corresponding to the BF+WF→BM case in Table 3 of [1] (another possibility)

Train			Test
BF_1 (1285)	WF_1 (1285)	BM_2 (3980, %50 of BM)	BM_1 (3980)
BF_1 (1285)	WF_1 (1285)	BM_1 (3980, %50 of BM)	BM_2 (3980)
BF_2 (1285)	WF_2 (1285)	BM_2 (3980, %50 of BM)	BM_1 (3980)
BF_2 (1285)	WF_2 (1285)	BM_1 (3980, %50 of BM)	BM_2 (3980)

In Table 2, there is more data of the BM population in the training set. So using the 4-fold cross validation in Table 2, our accuracy can be higher.

However, we adopted the 4-fold cross-validation of Table 1 in Table 3 of our ICIP 2016 paper [3] to avoid bias to our method in the comparison.

2. REFERENCES

[1] G. Guo and C. Zhang, "A study on cross-population age estimation," in *CVPR*, 2014, pp. 4257–4263.

[2] G. Guo and G. Mu, "Human age estimation: What is the influence across race and gender?," in *CVPRW*, 2010, pp. 71–78.

[3] H. Liu and X. Sun, "Linear canonical correlation analysis based ranking approach for facial age estimation," in *ICIP*, 2016.