Supplementary Materials for 'Person Re-identification Using Multiple First-Person-Views on Wearable Devices'

In the supplementary materials, we present more details on the dataset (Sec. 1). We provide a list of target IDs observed in each camera FoV as well as the number of overlap in observations across pairs of cameras. In Sec. 2, we provide CMC curves for all six camera pairs (including the 4 camera pairs shown in Fig.4 of the main manuscript) and for each of the three feature computation methods.

1   Target IDs in Different Camera FoVs

72 targets (IDs 1 to 72) are observed in 4 camera Field-of-Views (on 4 wearable devices). However, not all the targets are observed in every camera. The target IDs visible in 4 cameras are as follows.

Camera 1's FoV: Target IDs 1 to 52.
Camera 2's FoV: Target IDs 1 to 40.
Camera 3's FoV: Target IDs 1 to 30 and 60 to 72.
Camera 4's FoV: Target IDs 11 to 40 and 53 to 72.

Thus camera 1 has a total of 52 observations, whereas cam 2 has 40, cam 3 43 and cam 4 has 50 observations. The targets with IDs 11 to 30 are observed in all the cameras. The number of overlapping targets across pairs of camera FoVs are -

Camera pair 1-2: 40   Camera pair 1-3: 30
Camera pair 1-4: 30   Camera pair 2-3: 30
Camera pair 2-4: 30   Camera pair 3-4: 33

2   Cumulative Matching Characteristics (CMC) Curves

We have used 3 pairwise feature computation methods, viz., PCA, FisherFaces and WSSDA along with NCR applied on top of each of them to establish network consistency. As our dataset consists of videos captured via cameras on 4 wearable devices, we have a total 6 camera pairs. In this section, we present all the $6 \times 3 = 18$ CMC curves to compare the baseline methods before and after application of NCR. Fig. 1, Fig. 2 and Fig. 3 shows the CMC curves before and after NCR for PCA, FisherFaces and WSSDA methods respectively. For all the three figures, the sub-figures (a), (b),
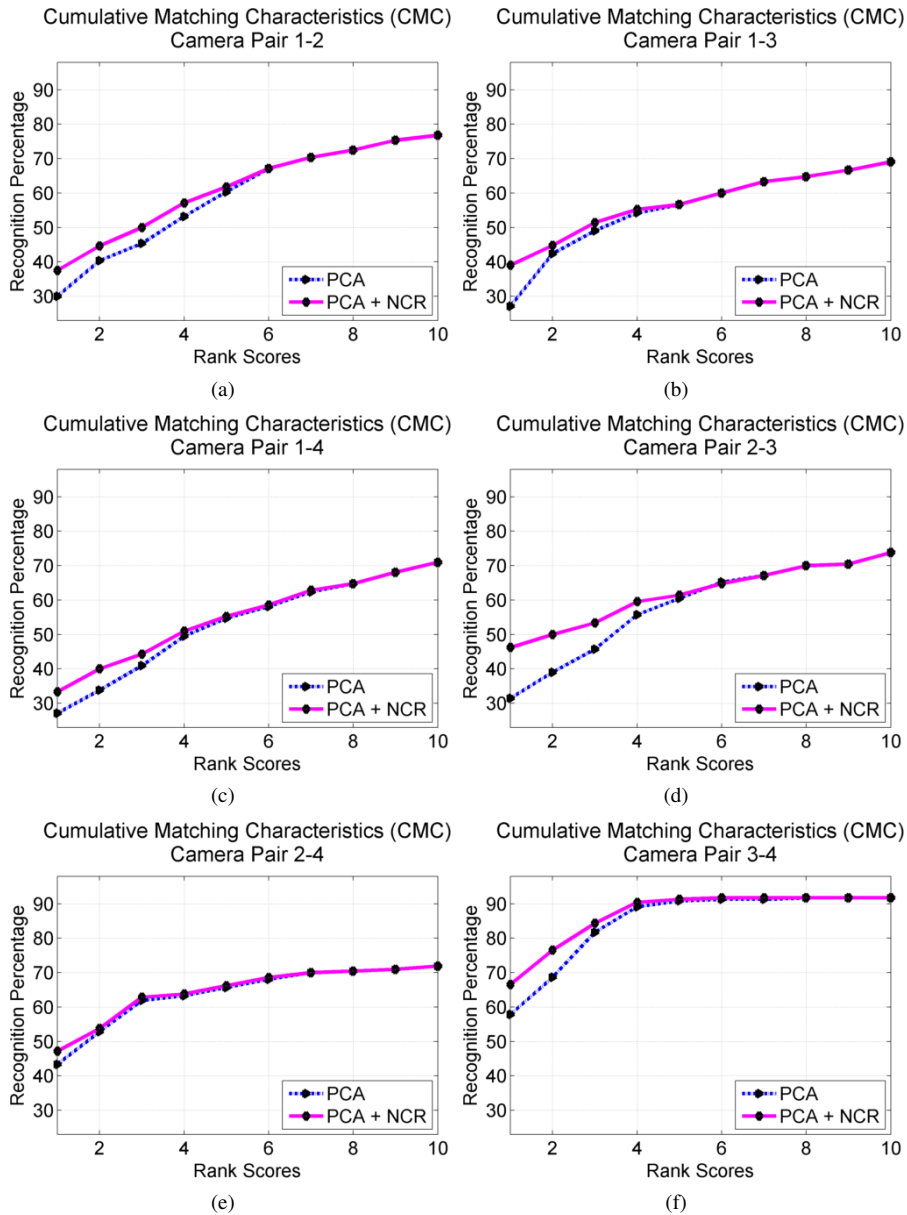
Figure 1: CMC curves comparing pairwise re-identification results obtained by PCA only and by NCR applied on PCA. PCA+NCR shows improvements over the baseline (PCA) across all 6 camera pairs.

(c), (d), (e) and (f) present CMCs for camera pairs 1-2, 1-3, 1-4, 2-3, 2-4 and 3-4 respectively.
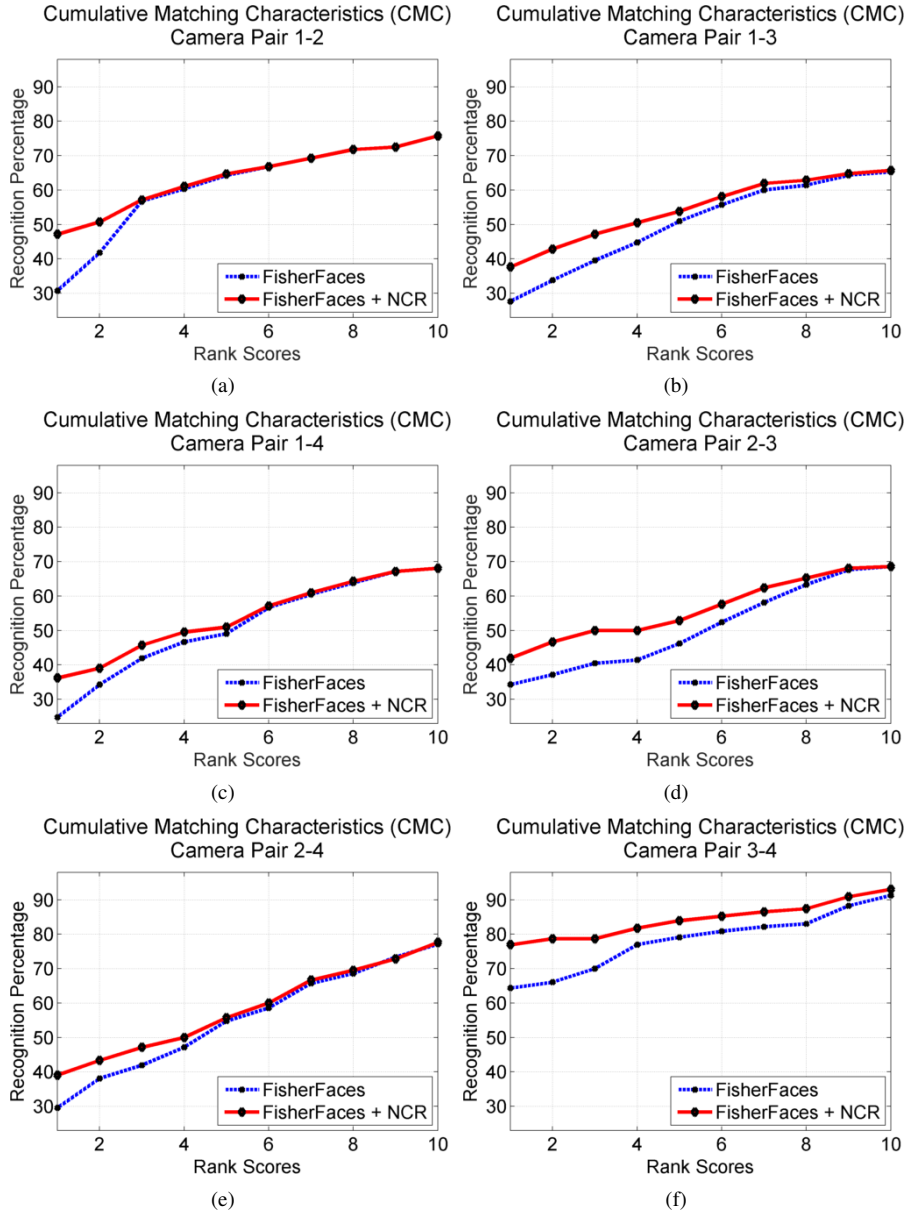
Figure 2: CMC curves comparing pairwise re-identification results obtained by FisherFaces only and by NCR applied on FisherFaces. FisherFaces+NCR shows improvements over the baseline (FisherFaces) across all 6 camera pairs.
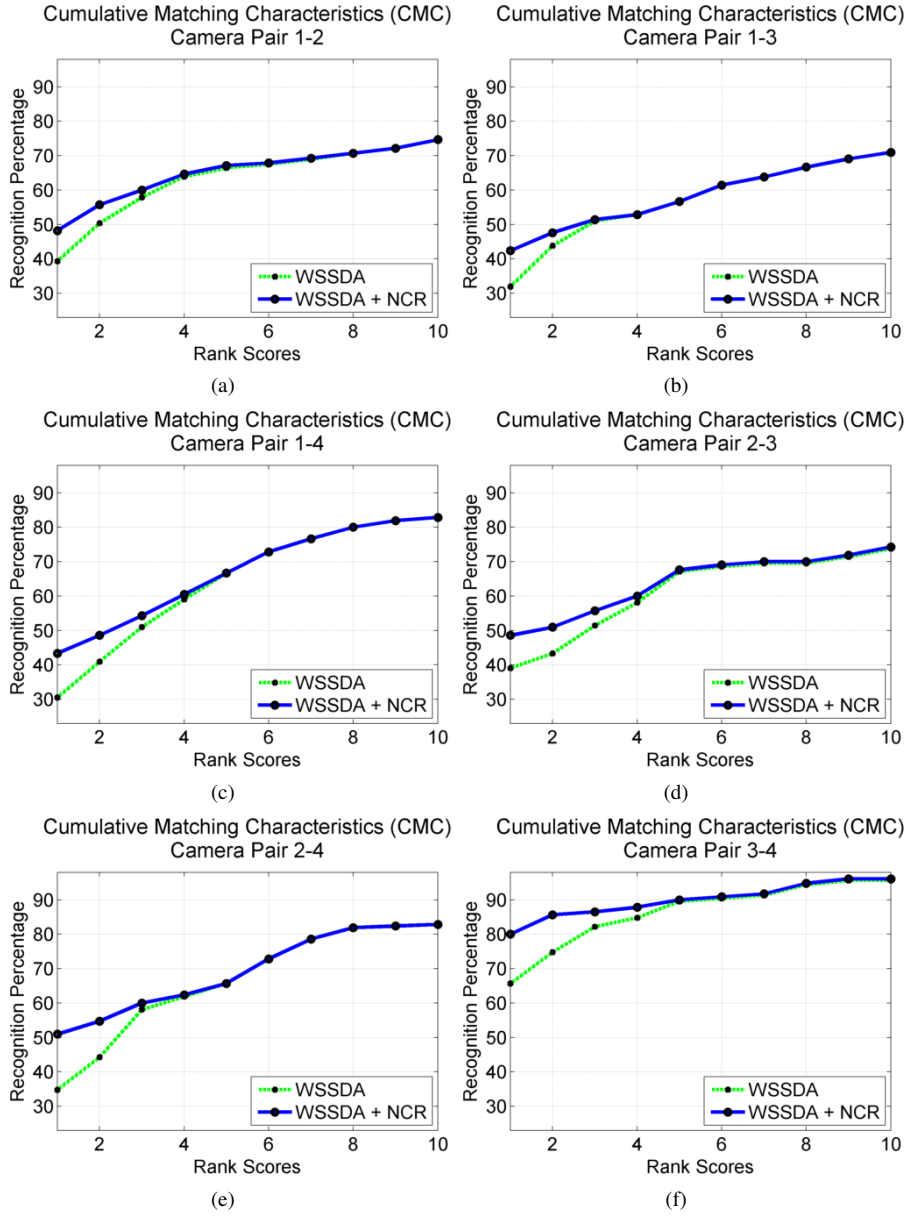
Figure 3: CMC curves comparing pairwise re-identification results obtained by the WSSDA method only and by NCR applied on WSSDA. WSSDA+NCR shows improvements over the baseline (WSSDA) across all 6 camera pairs.

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