Deep Disguised Faces Recognition

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Abstract

In this paper, authors merge several public web-collected face recognition datasets including CASIA-WebFace, CelebA [1], MS1M [3], UMDFaces [2] and VGGFace2 as the generic face recognition training dataset. They have removed the images or identities overlap between training and testing based on provided identity names. For disguised face recognition adaptation, they select the first 250 transformation vectors to form the subspace projection W_{select}.

Figure 1. Different light and expression.

1. Testing Details

They use L_2 distance to compute the identity distance in their two-stage training. In the one-stage training, they compute the cosine similarity as identity similarity. In the Disguised Faces in the Wild (DFW) training, for a given subject, positive pairs are constructed from normal, validation and disguised face images. In contrast, negative pairs are constructed from normal and impostor face images as well as cross subject face images.

2. One-stage Training

The authors use two DCNNs for un-aligned and aligned faces respectively. In one-stage training, they evaluate the effectiveness of using multiple DCNNs. In their approach to face recognition they used Eigen Faces which is a PCA based algorithm. And to detect face we used Viola-Jones algorithm. They took five images of each person and used them as a data set. Than they manipulated the Eigen values of the images to find a specific person.The results of the experiment is shown in Figure 1, it can be seen that combining different DCNNs can improve the performance. In their approach to face recognition they used Eigen Faces which is a PCA based algorithm. And to detect face we used Viola-Jones algorithm. They took five images of each person and used them as a data set.
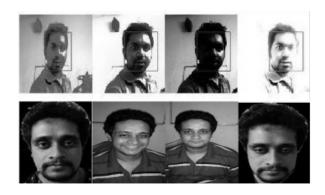
References

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