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Abstract
Face recognition and face detection techniques are widely used by various applications. There are few factors that affect the recognition performance such as white balance, expression, viewing angle and shading. But the glasses could cause error in face recognition. For example, the neural network or principle component analysis (PCA) techniques both use the normalized face features as training vector for recognition. The training result could varies due to the glasses is added on the human face or not.
In this thesis, we propose an automatic face detection and glasses removal method. The face is detected by skin color. By calculating the ratio of face, we could obtain the region of interest (ROI) image. Conducting the ROI image with skin color detection and binary operations, we could obtain the eyes position. We use morphological operations to acquire the exact eyes position and remove the eyes via region filling to get the glasses image. We will continue to process the glasses by using skin color and exemplar-based inpainting method. After all the
We perform the experimental results comparison between the images of face with glasses, face without glasses and reconstructed image. The experimental result shows the proposed method can reconstruct the skin properties of the glasses location properly, and thus generate an image without glasses. In some cases, the proposed method has still some drawbacks need to be handled. For example, we can not completely eliminate the glasses shade. For an image of face with sun glasses, the proposed method would produce wrong result. We will continue to improve this method to overcome the above situations, and thus promote the accuracy of face recognition.
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