



3D Face Recognition System Based on 3D Eigenfaces

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Condition: New. Publisher/Verlag: LAP Lambert Academic Publishing | A face recognition system that solves the problem of changes in facial expression and mimics in 3D range images. So here, we propose a local variation detection and restoration method based eigenfaces using the principal component analysis (PCA). The depth map of a 3D facial image is first smoothed using median filter to minimize the local variation. The forefront nose point is selected to be the image center for alignment. The detected face shape is cropped & normalized to a standard image size of 101x101 pixels. Facial depth-values are scaled between 0 and 255 for translation and scaling-invariant identification. The preprocessed face image is smoothed to minimize the local variations. The PCA is applied to the resultant range data and the corresponding principal or Eigen images are used as the characteristic feature vectors of the subject to find the person identity in the database of pre-recorded faces. The system performance is tested on the GavabDB databases. Experimental results show that the proposed method is able to identify subjects with different facial expression and mimics in the presence of noise in their 3D facial images. | Format: Paperback | Language/Sprache: english | 56...



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