USING PARTIAL INFORMATION FOR FACE RECOGNITION AND POSE ESTIMATION (FriAmPO1)

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Abstract:
The main achievement of this work is the development of a new face recognition approach called Partial Principal Component Analysis (P2CA), which exploits the novel concept of using only partial information for the recognition stage. This approach uses 3D data in the training stage but it permits to use either 2D or 3D data in the recognition stage, making the whole system more flexible. Preliminary experiments carried out on a multi–view face database composed of 10 individuals have shown robustness against big pose variations obtaining higher recognition rates than the conventional PCA method. Moreover, the P2CA method can estimate the pose of the face under different illuminations with accuracy of the 98% when classifying the face images in $0^\circ$, $+/-30^\circ$, $+/-45^\circ$, $+/-60^\circ$ and $+/-90^\circ$ views.