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2.5D Face Recognition Using Gabor Discrete Cosine Transform

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Abstract : In this paper, we present a novel 2.5D face recognition method based on Gabor Discrete Cosine Transform (GDCT). In the proposed method, the Gabor filter is applied to extract feature vectors from the texture and the depth information. Then, Discrete Cosine Transform (DCT) is used for dimensionality and redundancy reduction to improve computational efficiency. The system is combined texture and depth information in the decision level, which presents higher performance compared to methods, which use texture and depth information, separately. The proposed algorithm is examined on publically available Bosphorus database including models with pose variation. The experimental results show that the proposed method has a higher performance compared to the benchmark.

Keywords : Gabor filter, discrete cosine transform, 2.5d face recognition, pose
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