ON FEATURE EXTRACTION FOR HIDDEN MARKOV MODEL BASED FACE RECOGNITION

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Abstract. The influence of three types of feature extraction methods (PCA, DCT and DCT with DPA) on the recognition rate in a Hidden Markov Model (HMM)-based face recognition system, in clean and noisy conditions, is analysed and discussed. Parametric analyses varying the feature space dimension and the amount of noise that can affect image acquisition are presented. Two commonly used face databases, one with different head poses and the other with varying illumination conditions and expression are considered.

Key words: face recognition; HMM; feature extraction; PCA; DCT; noise.