

An Effective Illumination Compensation Method for Face Recognition

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Abstract

Face recognition is very useful in many applications, such as safety and surveillance, intelligent robot, and computer login. The reliability and accuracy of such systems will be influenced by the variation of background illumination. Therefore, how to accomplish an effective illumination compensation method for human face image is a key technology for face recognition. Our study uses several computer vision techniques to develop an illumination compensation algorithm to processing the single channel (such as grey level or illumination intensity) face image. The proposed method mainly consists of four processing modules: (1) Homomorphic Filtering, (2) Ratio Image Generation, and (3) Anisotropic Smoothing. Experiments have shown that by applying the proposed method the human face images can be further recognized by conventional classifiers with high recognition accuracy.

Keyword : Face Recognize, Illumination Compensation, Anisotropic Smoothing