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Abstract

Improved Face Recognition based on Hidden Markov Model

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Abstract:

In this paper, a new face recognition technique based on Hidden Markov Model (HMM), Pre-processing, and feature

extraction (K-means and the Sobel operator) is proposed. Two main contributions are presented; the first contribution in the pre-processing were image's edges are normalized to enhance the HMM models to be non- sensitive to different edges. The second contribution is a new technique to extract the image's features by splitting the image into non-uniform height depending on the distribution of the foreground pixels. The foreground pixels are extracting by using the vertical sliding windows. The proposed technique is faster with a higher accuracy with respect to other techniques which are investigated for comparison. Moreover, it shows the capability of recognizing the normal face (center part) as well as face boundary

Keywords: HMM, Sobel operator, Face Recognition, Accuracy

Biography:

Sameh Abaza B.sc degree in Electronics and communication from 10th of Ramadan University 2005 Finished master degree from Al-Azhar University 2009, Cairo, Egypt, in satellite image resolution enhancement technique and works as a lecturer in Electrical and communication department at Canadian international university. Email: mrsameh@hotmail.com

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