SYNTHESIS OF IRIS IMAGES USING MARKOV RANDOM FIELDS (ThuPmOR6)

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Abstract :

Of all the physiological traits of the human body that help in personal identification, the iris is probably the most robust and accurate. A number of iris recognition algorithms have been proposed in the literature over the past few years; however, not all of them have been tested on large databases. The largest known iris database has about 350,000 images in it but is proprietary. In this paper, a synthetic iris generation method based on Markov Random Field (MRF) modeling is proposed. The synthesis procedure is deterministic and avoids the sampling of a probability distribution and is, therefore, computationally simple. Furthermore, it is shown that iris textures in general are significantly different from other non−stochastic textural patterns. Clustering experiments indicate that the synthetic irises generated using the proposed technique are similar in content to real iris images.

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