

## Abstract

In general, a typical iris recognition system includes iris imaging, iris liveness detection, iris image quality assessment, and iris recognition. This paper presents an algorithm focusing on the last two steps. The novelty of this algorithm includes improving the speed and accuracy of the iris segmentation process, assessing the iris image quality such that only the clear images are accepted so as to reduce the recognition error, and producing a feature vector with discriminating texture features and a proper dimensionality so as to improve the recognition accuracy and computational efficiency. The Hough transform, polynomial fitting technique, and some morphological operations are used for the segmentation process. The phase data from 1D Log-Gabor filter is extracted and encoded efficiently to produce a proper feature vector. Experimental tests were performed using CASIA iris database (756 samples). These tests prove that the proposed algorithm has an encouraging performance.