Bharatanatyam Hand Gesture Recognition Using Polygon Representation

The objective of the paper is to develop a simple system for promoting e-learning of Bharatanatyam dance. A 4 stage system has been designed. 1st stage feature band segmentation is done to detect the hand of the dancer from the background. 2nd stage boundary of hand is approximated using straight lines. 3rd stage the straight line is represented by the sides of the decagon by comparing the slope and thus a chain code is obtained from this. last stage matching of a unknown chain code is done with the chain codes from the database with an accuracy rate of 89.3%. The entire procedure is cost effective as a single static camera is needed to produce the necessary input images for the proposed algorithm.