

Abstract

Human action recognition is one of the most important emerging trend/technology. It has wide application such as surveillance (behavior analysis), security (pedestrian detection), control (human-computer interfaces), content based video retrieval, etc. There are many methods of human action recognition. The human action recognition problem is made difficult by the great variability in body part rotation and tilt, lighting intensity and angle, body part movement, aging, partial occlusion (e.g. Wearing Hats, scarves, glasses etc.), etc. Principal components from the body parts space are used for human action recognition to reduce dimensionality. A multi scale representation human action recognition is done to preserve the discriminate information prior to dimensionality reduction.

Human Activity Recognition system is a mechanism of identifying various Human Activity against some stored pattern Human Activity. This project is a Human Activity Recognition system for identification of person. It takes input an image of a person and searches for a match in the stored images. If there is match, the user can see the result as the Human Activity matched or not matched. User Can not make any kind of change in the stored image files, i.e. a user is not authorized to add or delete images from the storage data. The administrator of the system has authentication to make updates in the storage data.

I present a biometrics system performing identification, of automatic Human Activity recognition. This system is based on Gabor features extraction using Gabor filter. For feature extraction the input image is convolve with Gabor filter and extra personal sample generation algorithm is used to select a set of informative and nonredundant Gabor features. I used HMM (Hidden Markov Models) for matching the input Human Activity mage to the stored images.

The purpose of this research is to develop a novel, accurate and efficient Human Activity verification system. In this dissertation the system developed uses the hidden Markov model (HMM) to match a test Human Activity image with an appropriate reference image. This system use the Gabor filter to extract the sequence of informative Gabor features from the given Human Activity image. The extracted features are again subjected to discrete Radon transform (DRT) to extract a sequence of feature vectors from a image. viterbi algorithm is used to find the maximum likelihood between the observation and test sequences.