عنوان مقاله:

Improved Action Recognition via Human Poses by Using DCT and Gaussian Filtering

محل انتشار:

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خلاصه مقاله:

Action recognition is a significant topic in machine vision and widely used inrobotic, user interface design, video surveillance and etc. In this paper, we proposed an approachto enhance the performance of a recent published action recognition approach [1] which is basedon a combination of Bag-of-correlated-poses (BOCP) as a local and Extended-motion-historyimage(E-MHI) as a global representation. To construct BOCP, a silhouette of each frame inaction sequence is used. The silhouettes have high dimension. Thus in this paper, we propose adimensionality reduction method based on Discrete Cosine Transform (DCT). In fact, we use afew number of DCT coefficients that contain 98% of information. Further, E-MHI includes threeglobal descriptors that complement each other. In order to reduce the noise of global descriptorswe also propose to use Gaussian low pass filtering on the images which are extracted from EMHI.The experimental results on IXMAS dataset have proved that the action recognition rate ofour proposed method is 90.7%.

کلمات کلیدی:

action recognition, discrete cosine transform, gaussian filtering, bag-ofcorrelated poses, motion-history-image