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Curvelets based moving object tracking.

Abstract

The current field of image processing is growing fast and wide. Object Tracking is an important problem in computer vision. Object tracking has been researched far and wide. Various unique solutions has been proposed and implemented. New ideas pertaining to curvelets has been in implementations but vaguely. We have thought of making it possible for curvelets to be used in the field of object tracking. The most common solutions have been feature extraction and pattern matching. With multiresolution analysis in deep swing we can hope to exploit the tools which it offers to our purpose. The primary idea of wavelets has been explored. Curvelets is a very new concept of multiresolution analysis due to its sparsity levels and with strong coefficients we can hope to achieve the object tracking. We derive the important features of object in the frame and try to use curvelet transform as feature for segmentation as well as tracking. Simply one feature is being used for segmentation as well as tracking purposes. Any feature which remains invariant will be a boon in the object tracking scenario. This relieves us from taking in to considerations various other features such as shape, color, illumination etc. Object tracking is a challenging problem having potential application in defense and civil. Defense application includes tracking of smart missile system, guiding pilot of high performance tracking systems. Civil applications are related to traffic monitoring and medical implications of tracking molecules in human bodies.