Abstract

The process explicitly dedicated to estimate the path of the object as it moves along the region of scene in the image plane is principle of tracking. In other words it is a strategy to detect and track moving object through a sequence of frames. In this work, optical flow based on Horn-Schunk with Barren, Fleet and Beuchemin (BFB) kernel has been employed to estimate the motion vectors. The peripheries of moving objects are extracted for different shape signatures such as boundary, edge, area, curvature and centroid distance functions. Fourier descriptors of particular shape signature for each of the candidate and model template are extracted. Similarity between the model and candidate templates is confirmed by corresponding minimum Minkowski distance. Subsequently, best match candidate will be updated. However, centroid distance function has remarked some potential. Thus, it further motivated to mine exhaustively to throw in the proposed novel criteria such as the Geometric Mean of Segmented Centroid (GMSC) distance function to track the object. The proposed method of GMSC distance function has shown significant change in the tracking outcome.

References
A Novel Shape Signature of Geometric Mean of Segmented Centroid Distance Function to Track the Object through Fourier Descriptors


Index Terms

Computer Science Pattern Recognition
Keywords

Gray Optical flow  Shape signature  Fourier descriptors (FD)  Object Tracking
Geometric Mean of Segmented Centroid distance  function (GMSC)