Image stitching and 2D to 3D Image Reconstruction for Abnormal Activity Detection

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Abstract

The basic idea of stirring the visual information is required to obtain 3D image. Over the time, various techniques have been evolved to enhance the visual information. There are several techniques for 2D to 3D conversion but it aim at creating a depth of vision using two images. The proposed method used multilayer information to get 3D information from 2D. The first step in the proposed work is to capture the video using web cam and then divide the captured information into frames and the images are registered. Features are extracted from the registered image such as edges and boundaries using scale invariant feature transform (SIFT). A series of images captured from different cameras are stitched by a geometrically consistent mosaic either horizontally/vertically based on the image acquisition. Anaglyph method is applied to the stitched image for 3D reconstruction. In the proposed approach, the pictures taken from multiple viewpoints of the same scene are stitched and convert into 3D image from 2D, so that more informative representation of the scene is available for abnormal activity detection.
References


Index Terms

Computer Science

Image Processing

Keywords

Video capture, Image Acquisition, image registration, Stitching (SIFT), 3D Reconstruction.