Abstract

In order to fulfill the requirement of growing demand of video on internet like its streaming, digital library and also due to limited channel bandwidth, video compression has become a necessity and in order to compress a video we have to reduce its temporal and spatial redundancy. Temporal redundancy deals with motion estimation and compensation. One of the popular methods for motion estimation is intensity based block matching which determines the movement of blocks between the adjacent frames, but a common drawback with this block motion estimation is the velocity of the blocks located at the boundary of the moving objects is not estimated accurately. In this paper, a hybrid approach for video compression is presented in which the motion estimation using edge matching is presented. The Ant colony Edge Detector is used to create edges. The image is divided into non overlapping rectangular blocks. The best match to current block is search for in the previous frame to the search area and on the basis of mutual information match is found. In order to remove the spatial redundancy, the Modified Fast Haar Wavelet Transformation is used.
- Anthony Amankwah Chris Aldrich, "Motion estimation in flotation froth images based on edge detection and mutual information", IEEE 2012.
- Josselin Gautier, Olivier Le Meur "Efficient Depth Map Compression based on Lossless Edge Coding and Diffusion", IEEE 2012.
- A video compression tutorial by Hsin-Hui Chen Graduate Institute of Communication Engineering National Taiwan University, Taipei, Taiwan, ROC.

**Index Terms**

Computer Science  
Artificial Intelligence

**Keywords**
Motion Estimation  Edge Detection  Video compression  Mutual Information.