Abstract

Data coding have emerged in different directions. Various real time applications focused towards the improvement of data codings for efficient and accurate usage of available resources. In such application where resources are constrained, data coding systems are facing the limitation of processing speed and accuracy. Applications where speed of computation for
transferring is more important, accuracy is neglected or vice versa. In such systems efficiency could be improved with a low computation, lower dimension coding techniques with higher accuracy. One such application where these effects are predominantly been observed is “video coding”.

Video coding has limitations of large data processing resulting in slower or low accurate systems. To improve the performance of such systems various approaches were made. These approaches are limited when spatial resolution variation, were dominantly observed. It is observed in past literatures that lower dimensional image representation could reduces the resource requirement, but are found limited with accuracy when displayed in real time. To achieve higher accuracy in displaying high-resolution projection, various approaches using video scaling methods were seen. These projection methods were found to be more accurate in displaying, when processed in frequency representation.

To transform an input data from time representation to frequency representation, conventional Fourier transformation technique were used. Fourier transformations are limited in representations and interpolation for high resolution varying video sequences. Additionally this approach is not effective much in interpolation of video sequence when represented in a low dimensional representation. In this work a focus is made to improve the accuracy from low representing video sequence to high-scaled video output using advance interpolation technique called “Cubic-B-Spline” approach. The suggested method is developed on MATLAB tool with image and video processing toolboxes to implement and evaluate the suggested method for system accuracy and efficiency.

Reference

- B. Narayanan, R. C. Hardie, K. E. Barber, and M. Shao, “A computationally efficient

**Index Terms**

Computer Science  
Signal Processing

**Key words**

Video Scaling  
Cubic-B-Spline  
Video coding