A modified context based interpolation algorithm, for digital images, is presented. In the proposed algorithm, the unknown pixel value is exploited based upon the characteristic of a neighboring pixel by considering its edge. The edge is obtained by taking differences of two slopes calculated from neighboring pixels, which are in orthogonal direction. The algorithm uses fourth ordered prediction based approach when interpolating new pixel value by giving suitable weights to the neighboring pixels. This method gives better results as compared to some of existing interpolation methods. Comparison has done using Peak Signal to Noise Ratio (PSNR) and Correlation Coefficient method.

References


Index Terms

Computer Science Image Processing

Keywords

Prediction coefficient, interpolation, low resolution image, neighboring pixels, slope identification, weight estimator.