Abstract

This thesis deals with the advanced image processing techniques named as image denoising techniques when the level of noise is very high and not uniform. Initially, we use the BM3D model and remove noise in first step, then we used Modified Total Generalized Variation (MTGV) that has ability to preserve the edges of the image and can recover lost of image details. In Total Generalized Variation (TGV) initially, it take the mean of observed and restored image then update the parameter and then TGV restoration algorithm applied to the average and dynamic parameter. Since BM3D is suitable for the low level noise, but when we use it for higher noise level it can loss the image details. Then TGV recover the image details and improve the quality of an image. Based on these model we proposed a hybrid architecture model for this purpose. Experimental results are given with illustration and with a table which show that our proposed model perform well and prevent staircase artifacts more precisely.