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Image Processing Technique for Detection of Color Images

Dr.Sandeep Kumar[1], Divya Kapil[2]
[1]Associate professor & HOD (CSE Deptt), [2]M.Tech(CSE Deptt), GGGI, Dinarpur, Ambala

Abstract: ***life is going very fast in technology. Today most of the persons are using internet and dealing with exchange of data every day.due to exchanging in image data there are some pixels values are upset and gets lowest and highest values, that is known as salt and pepper noise to remove this noise we are going to purpose a technique by using Median filter, trimmed filter and Bilateral filter. it will show effective results than existing techniques. This paper shows a new technique to remove salt pepper or impulse noise from color images. This is the most important need of today's life because we are sending too much images daily through internet which cause noisy images or quality of image degrading because of traffic on internet and long distance between sender and receiver. Purposed technique will produce much effective result than existence techniques.***
Keywords: salt pepper noise, median filter, bilateral filter.

I. INTRODUCTION

Noise is variety of splendor or shading data in pictures, and is generally a part of electronic commotion. It can be created by the sensor and hardware of a scanner or advanced camera. Picture denoising is an imperative picture handling undertaking, both as a procedure itself, and as a part in different procedures. A lot of approaches to denoise a picture or an arrangement of information exists. The fundamental properties of a decent picture denoising model is that it will evacuate commotion while safeguarding edges. Noise represents undesirable information which deteriorates photo best . Noise is a random variant of picture depth and visible as grains inside the photograph . Noise manner, pixels in the photo gift unique intensity values as opposed to correct pixel values. Noise originates from the nature of detection processes and has many specific organization and causes, Noise is defined as a technique (n) which influences the obtained photo (f) and isn't part of the scene (preliminary sign-s), and so the noise version can be written as f(i, j) = s(i, j) + n(i, j).virtual photograph noise may additionally come from various resources. the acquisition process for digital snap shots converts optical alerts into electric indicators and then into digital indicators and is one processes by means of which the noise is delivered in virtual photos .every step in the conversion procedure experiences fluctuations, as a result of natural phenomena, and every of these steps adds a random fee to the resulting depth of a given pixel The fundamental sources of noise in virtual snap shots are :

If the image is scanned from a photograph made on film, the movie grain is the source of noise. Noise can also be the result of the harm to the film, or be delivered via the scanner itself .

The imaging senor may be tormented by environmental situations for the duration of photograph acquisition .

If the photograph is obtained without delay in a digital layout, the mechanism for amassing the information can introduce noise.

Inadequate mild tiers and senor temperature may introduce the noise in the picture .

Digital transmission of image information can introduce noise .

Interference in the transmission channel can also corrupt the image .

If dirt particles are gift on the scanner screen, they also can introduce noise in the photograph.

A. Salt and Peeper Noise

The time period impulse noise is also used for this kind of noise[2].other terms are spike noise, random noise or impartial noise. Black and white dots appear in the image as a result of this noise and for this reason salt and pepper noise[5].This noise arises within the photo because of sharp and unexpected adjustments of photograph signal.dirt particles inside the picture acquisition supply or over heated defective components can motive this kind of noise.

B. Filters used to take Away Noise

1) *Median Filter:* the main concept of the median clear out is to run thru the sign entry by means of entry, replacing each entry with the median of neighboring entries. The pattern of acquaintances is known as the "window", which slides, entry by way of

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access, over the entire signal. For 1D alerts, the maximum apparent window is just the first few preceding and following entries, while for second (or higher-dimensional) indicators consisting of images, greater complicated window patterns are feasible (along with "box" or "cross" styles). observe that if the window has an ordinary number of entries, then the median is simple to define: it's miles simply the middle price after all the entries inside the window are sorted numerically. For a fair range of entries, there is a couple of possible median.

2) *Trimmed Filter:* A non-linear smoothing filter. occasionally referred to as the α-trimmed imply filter out.remember that the most important downside of the imply filter is the equal impact of all pixels inside the kernel, even very noisy ones. Truncating, or 'trimming', the distribution before taking the mean, through disposing of a few proportion (usually called α) of the most important and smallest values, is a simple way of making sure that excessive nearby values do no longer influence the output. The component to be truncated varies among zero% (equal to the imply) and 100% (equivalent to the median). Figures 1f and 2f in corridor (2007[1]) display the effect of trimming best the maximum and minimum values in two passes of a 3 × 3 guide (α = 25%). notice that, in popular, more than one passes of a small guide is approximately equal to a single pass of a bigger assist, so passes of a 3 × three guide gives about the identical result as one skip of a five × five help, three passes are just like 7 × 7, and so forth.

II. LITERATURE REVIEW

K. Aiswarya et al [1] In this paper calculation for the evacuation of high thickness salt and pepper clamor in 2010. This calculation is given to beat the downsides of existing salt and pepper clamor expelling systems like MF, AMF, and DBA. The MF functions admirably for the low thickness commotions however it harms the uncorrupted pixel thus diminishes picture quality at high thickness clamors

A. Kharrat et al.[2] In their paper presented a method for automated diagnosis, based on classification of human brain MR images. The proposed approach consists of five stages: In the first stage, 2D Discrete Wavelet Transform and Spatial Gray Level Dependence Matrix (DWT-SGLDM) is used for feature extraction. In the second stage, for feature selection Simulated Annealing (SA) is applied to reduce features size. The next stage uses Stratified K-fold Cross Validation to avoid over fitting. In the fourth stage to optimize SVM parameters, GA-SVM model is used. Finally SVM is used to construct the classifier.

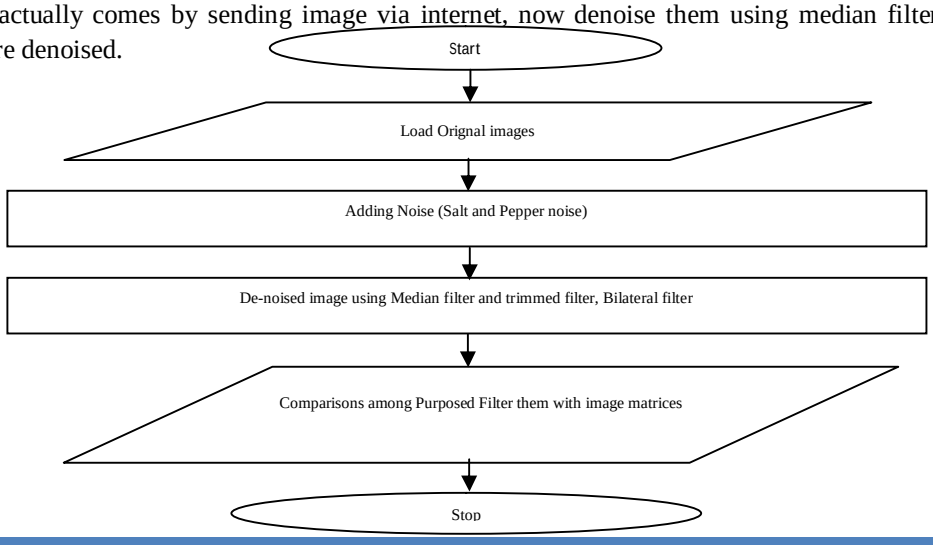
E. El-Khamy et al.[4]purposed for the sharpness upgrade of picture debased by obscuring. To make a picture obscuring free or for the sharpness upgrade of picture numerous techniques utilized. Unsharp Masking (UM) is one strategy which works by including a small amount of the high pass sifted adaptation of the information picture to the first information.

Ming Zhang et al [10] Presented two commitments about bilateral filtering. To begin with, they give an experimental learn about the ideal parameter determination of two-sided channel and besides they give a multiresolusion two-sided channel, which is a blend of bilateral filtering and wavelet thresholding.

Sukhjinder Kaur [12] In this paper various noise and filter techniques are explained. Noise techniques are salt paper, gussion and speckle explained very well. Filtered techniques are both linear and non linear.

III. PROPOSED WORK

Flow chart of proposed technique is shown as follows. first of all take a set of original Color images then add salt and pepper noise in these images which actually comes by sending image via internet, now denoise them using median filter, trimmed filter and bilateral filter. images are denoised.



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Fig: 3.1 proposed technique for noise removal

IV. CONCLUSION

Proposed technique will provide better result than existing techniques, because filters are used bilateral ,median and trimmed: bilateral use linear and nonlinear adaptive filters which very effective for range of domain followed by median and trimmed filter which are effective for blurred image and used 0 to 255 pixels respectively.

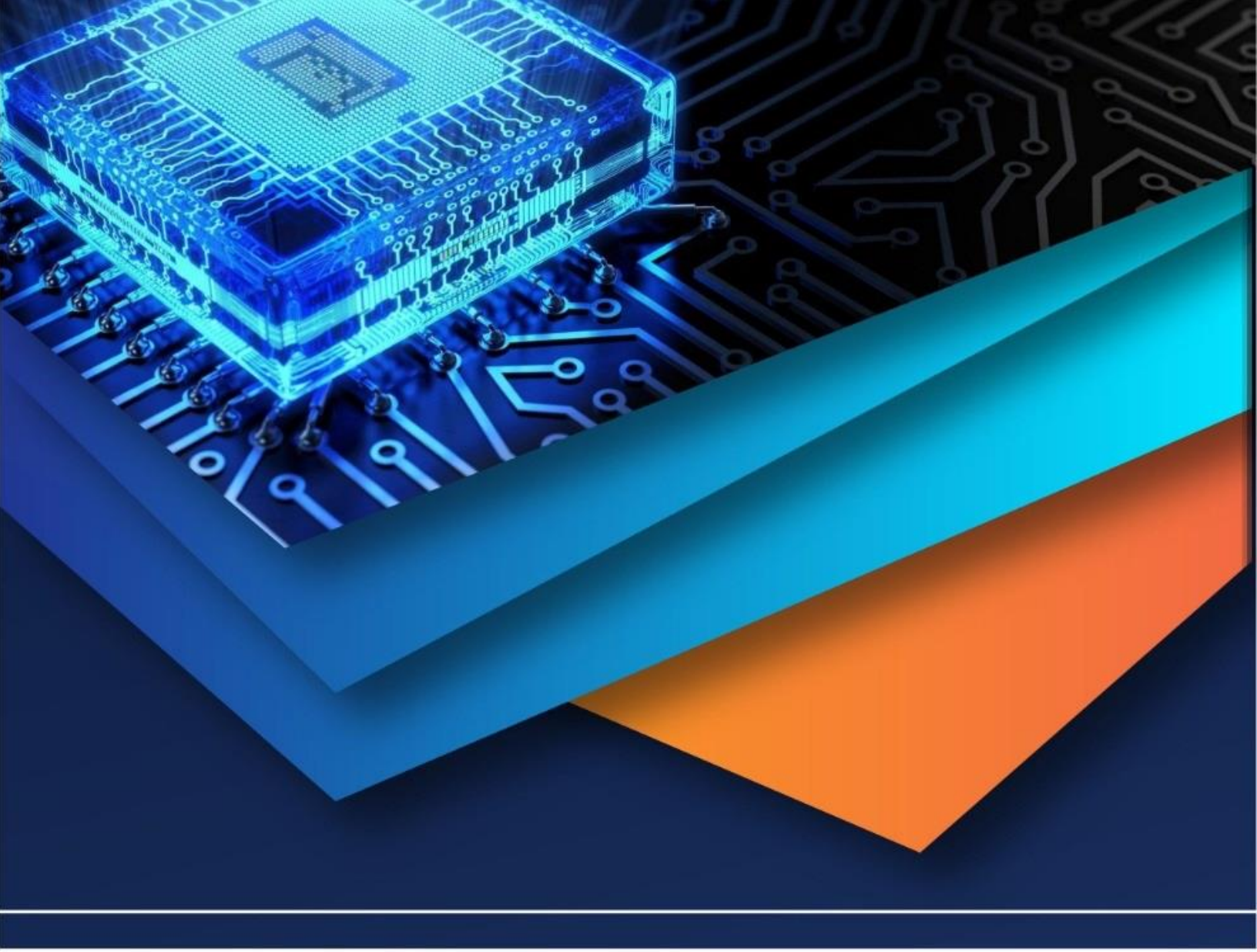
V. FUTURE SCOPE

Future scope In future this filter can be further improved by adding more advanced impulse noise detection schemes to it. By using an efficient noise detection technique the thin lines and texture can also be classified differently along with edges in image hence the information contained by thin lines and texture can also be preserved as edges are preserved in this method.

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