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for giving a massive kick start to the Campus Placements for the batch passing out in 2021 during these tough times of COVID 19

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Hearty Congratulations to our CSE & ISE Students

This is just a beginning..

CSE department is elated to inform that 7 students have been selected by LOWES INDIA as Software Engineers with a special salary package of Rs. 19.14 LACS per annum.

7 CSE Students who have been selected are:

1) Divya
2) Lakshmi Manivannan
3) Aishwarya Kadali
4) Jehan K Engineer
5) Aayush Soni
6) Akshay Kumar R
7) Anurag R

Another set of 4 students from CSE got hired by LOWES INDIA as Software Engineers with a special salary package of Rs. 19.14 LACS per annum .

1) B Thoran Raj
2) Nishan Giri
3) Saloni Raj
4) Roshini S

Faculty Achievement

Ms. Suganya, Sr. Assistant Professor of CSE department has published a review paper in the SCOPUS INDEXED journal International Journal of Engineering Trends and Technology – Special Issues July - ICT 2020 titled "On the Review of Dehazing Methods for Bad Weather Images".

This paper reports the collective review on the proposals from the literature related to image enhancement in outdoor scenes. Images captured in natural environment are subject to bad weather conditions including haze, mist and fog which would spoil the appearance of images. Edge, contrast and brightness are the features usually affected in an image because the fog pixels blur total scene and spoil the edges. Results from earlier works were compared based on the Peak Signal to Noise ratio, Structural Similarity index metric, Percentage of saturated pixels, Visible Edges ratio, and Perceptual haze density metrics.

International Journal of Engineering Trends and Technology (IJETT- Scopus Indexed) – Special Issues - ICT 2020

On the Review of Dehazing Methods for Bad Weather Images

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Bengaluru, India

Abstract *— This paper reports the collective review on the proposals from the literatures related to image enhancement in outdoor scenes. Images captured in natural environment are subject to bad weather conditions including haze, mist and fog which would spoil the appearance of images. Edge, contrast and brightness are the features usually affected in an image because the fog pixels blur total scene and spoil the edges. Since the quality of images is ruined, they turn to be useless for any type of evaluation. This problem is very serious in online applications not limited to driving assistance, satellite imageries and defense applications. Therefore, a thorough conceptual study on all the existing methods to mitigate the haze in the images had been presented in this paper. Results from earlier works were compared based on the Peak Signal to Noise ratio, Structural Similarity index metric, Percentage of saturated pixels, Visible Edges ratio, and Perceptual haze density metrics. Ultimately, few suggestions to improve the dehazing performance have been presented.*

Keywords *— Image enhancement, Fog removal, driving assistance, chaos and Road traffic images*

I. INTRODUCTION

Acquiring indoor images is pretty simple and mostly does not involve any post processing. The same is very critical in outdoor imaging, since the light from the scene element is scattered due to natural or artificial light sources. So, quality of images acquired at outdoor is highly dependent on atmospheric conditions. Moreover, the variation in contrast is an exponential decay through the depth of the image. Prevailing intelligent methods for surveillance, recognition, navigation and classification based on image processing exist at the mercy of quality features hidden in an image. Hence, it is vital to enhance the images prior to using the images for needy applications.

This survey is envisioned to present the existing enhancement algorithms in spatial domain, time domain and frequency domain along with its strengths and weaknesses. Of course, enhancement would mean any one or all of the parameters such as; Brightness, Contrast, Color, Edges, Blur etc. It is widely seen that the researchers had focused on appropriate algorithms only to specific applications to enhance the image content. Nonetheless, most of the dehazing algorithms contain the sequence as mentioned in Fig. 1. The steps include depth map estimation, atmospheric light and transmission map estimation, refinement of depth map, restoration model estimation and recovery of haze free image.

This review paper has been organized as follows. Section II presents clear picture on how the images are degraded based on the atmospheric conditions. Section III offers discussion on existing popular dehazing algorithms along with merits and demerits observed on those research works. Section IV narrates the metrics conventionally used in de-hazing algorithms along with newly proposed metrics. Section V gives a conclusive remarks and future enhancements to be carried out.

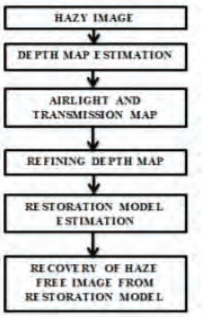

Fig. 1 Sequence of dehazing operations

II. IMAGE DEGRADATION MODEL

A. Origin of image degradation

Prior to disclose the image degradation model, it is essential to review the source atmospheric conditions responsible for degradation. There exist two poor weather conditions: Steady and Dynamic conditions [1]. Haze, fog and mist are caused due to the atmospheric particle of sizes 1-10 μ.m. The case is

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