College of Engineering Chengannur Department of Computer Engineering 03CS6902 Mini Project Abstract of Project Proposed Effective Single Image Dehazing by Fusion

CHN20MTO14, CHN20CSIP05, SHIJINA T, athi369shiji@gmail.com June 6, 2021

Keywords: outdoor images, hazey images, Single Image dehazing, fusion

Abstract

One of the important problems in the area of image processing is the restoration of the images those are corrupted due to various degradations. The outdoor images captured in inclement weather are degraded due to the presence of haze, fog, rain and so on. Images of scenes captured in bad weather have poor contrasts and colors. This may cause difficulty in detecting the objects in the captured hazy images. Due to haze there is a trouble to many computer vision applications as it diminishes the visibility of the scene. Haze removal methods have become more useful for many computer vision applications. All the dehazing methods useful for surveillance, intelligent vehicles, for remote sensing and under water imaging, etc. Removing the haze layer from the input hazy image can significantly increase the visibility of the scene. The haze free image is basically visually pleasing in nature. In image processing area haze removal is one of the challenging problem or task as because the haze is dependent on unknown depth. For a single input hazy image the haze removal problem is under constrained problem. Therefore many researchers adopted the method in which they have considered multiple images or additional images. There exists some methods for dehazing and these are based on the partial estimation of atmospheric light. Above methods are not worked when the scene objects are inherently similar to the atmospheric light and no shadow is cast on them (such as the Snowy Ground). So in this project I am trying to find a new solution for image dehazing by fusion such that it may give better result from the previous one.

REFERENCES

- [1] C. Ancuti, C. O. Ancuti, C. De Vleeschouwer and A. C. Bovik, "Day and Night-Time Dehazing by Local Airlight Estimation," in IEEE Transactions on Image Processing, vol. 29, pp. 6264-6275, 2020
- [2] C. Ancuti, C. O. Ancuti, C. De Vleeschouwer, and A. C. Bovik, "Nighttime dehazing by fusion," in Proc. IEEE Int. Conf. Image Process. (ICIP), Sep. 2016, pp. 2256–2260.
- [3] K. He, J. Sun, and X. Tang, "Single image haze removal using dark channel prior," in Proc. IEEE CVPR, Jun. 2009, pp. 1956–1963.
- [4] C. O. Ancuti and C. Ancuti, "Single image dehazing by multi-scale fusion," IEEE Trans. Image Process., vol. 22, no. 8, pp. 3271–3282, Aug. 2013.

Decision: