ABSTRACT

Existing image enhancement methods have problems of a slow data transmission and poor conversion effect, resulting in a low image-recognition rate and recognition efficiency. To solve these problems and improve the recognition accuracy and recognition efficiency of image features, this study proposes an edge detail enhancement algorithm for a high-dynamic range image. The original image is transformed by Fourier transform, and the low-frequency and high-frequency images are obtained by the frequency-domain is divided by the CLAHE and UM-Grey. CLAHE is used for improve the visibility level of foggy image or video. The low-frequency image is processed by the contrast limited adaptive histogram equalization, and the high-frequency image is obtained by the non-sharpening masking and gray transformation. The low-frequency enhanced and the high-frequency enhanced images are obtained by the fusion of BM3D and weiner filter. The BM3D is used to fuse the image of CLAHE and UM-grey. Finally, the weiner filter is used to enhance the edge details of the pixel. Then it Will also remove the undesirable pixel of the image.