Abstract

This paper compares the Fast Single Image Haze Removal (FSIHR) using Color Attenuation Prior (CAP) and Multi-Scale Fusion (MSF) methods. Single image haze removal has been a challenging problem due to its ill-posed environment. FSIHR works as simple but powerful color attenuation earlier, for removal of haze from a single input hazy image. MSF method is a fusion-based approach that results from two original hazy image inputs by applying a white balance and a contrast enhancing process. To merge the information of the derived inputs successfully, to maintain the regions with good visibility, it filters their important features by computing three measures (weight maps): luminance (Y), chromaticity (C), and saliency (S). The other FSIHR using CAP creates a linear model for modeling the picture depth of the hazy image with a supervised learning method; the depth information can be well recovered. With the depth map of the hazy image, the transmission and the scene radiance restoration via the atmospheric scattering model, and thus efficiently remove the haze from a single image. While the MSF method is faster than existing single image dehazing strategies and yields precise results.
References


Index Terms

Computer Science

Image Processing

Keywords

Dehazing, image defogging, image restoration, depth estimation.