* In this paper, an algorithm based on the hardware conditions of the intelligent fire helmet platform is proposed, which improves dark channel prior. Filtering partition and sampling are respectively used to quickly and accurately evaluate and repair the transmittance with a guided filter. [1]
* The proposed method is based on the smoke mixing model and consider the sparseness of smoke and the global and local consistency of clean video. [2]
* To solve these problems, we present a novel color-dense illumination adjustment network (CIANet) for joint recovery of transmission matrix, illumination intensity, and the dominant color of aerosols from a single image. Meanwhile, to improve the visual effects of the recovered images, the proposed CIANet jointly optimizes the transmission map, atmospheric optical value, the color of aerosol, and a preliminary recovered scene. Furthermore, we designed a reformulated ASM, called the aerosol scattering model (ESM), to smooth out the enhancement results while keeping the visual effects and the semantic information of different objects. [3]
* This paper reports an optical method, called violet illumination, coupled with deep learning, to significantly increase the effectiveness in searching for and identifying rescue targets during a fire. [4]
* In this paper we propose a method able to detect fires by analyzing the videos acquired by surveillance cameras. [5]
* Our network aims to estimate both a dehazed image and a fully scaled depth map from a single hazy RGB input with end-to-end training. [6]
* This model consists of atmospheric light, transmission map and also includes a glow. The input is glow image and it is separated into the glow and glow free images through a quadratic optimization problem. [7]
* Based on a newly presented haze-free image prior - dark channel prior and a common haze imaging model, for a single input image, we can estimate the global atmospheric light and extract the scene objects transmission. [8]
* Dehazing methods based on deep learning are mainly divided into supervised ID and unsupervised ID. There is not too much work about semi-supervised dehazing. In general, supervised methods require pairs of hazy images and haze-free images/transmission maps. The unsupervised methods often take unpaired images as the training set. [9]
* Instead of relying on explicitly estimating the key component of atmospheric scattering model, we present end-to-end CNN model, which directly recovers the clear images from hazy images. [10]
* In this paper we propose a novel end-to-end convolution dehazing architecture, called De-Haze and Smoke GAN (DHSGAN). The model is trained under a generative adversarial network framework to effectively learn the underlying distribution of clean images for the generation of realistic haze-free images. [11]
* DCP method needs to find the transmission map which gives the strength of the fog in the image. Major parts in this algorithm are the estimation of the dark channel, finding the transmission map, refining the transmission map, and reconstructing the image without haze. [12]
* We automate the process of air-light estimation using smoke features which is the key parameter for dehazing. To reduce color artifacts a color normalization is applied to the dehazed image using the detected non-smoky reference image. The results of the proposed approach shows a reduction in color artifacts and outperforms other methods reported in the literature. [13]
* We have experimented using benchmark dataset consisting of both synthetic and real-world hazy images. The obtained results are evaluated both quantitatively and qualitatively. Among these techniques, the DHSGAN gives the best performance. [14]
* This paper proposes a novel Transformer–Convolution fusion dehazing network (TCFDN), which uses Transformer’s global modeling ability and convolutional neural network’s local modeling ability to improve the dehazing ability. [15]
* Inspired by Generative Adversarial Network (GAN), we propose an end-to-end attentive DesmokeGAN which implements the visual attention into the generative network to effectively learn the smoke features and their surroundings. [16]
* In this paper, an efective image dehazing method is proposed, which is based on improved color channel transfer and multiexposure image fusion to achieve image dehazing. First, the image is preprocessed using a color channel transfer method based on k-means. Second, gamma correction is introduced on the basis of guided fltering to obtain a series of multiexposure images, and the obtained multiexposure images are fused into a dehazed image through a Laplacian pyramid fusion scheme based on local similarity of adaptive weights. Finally, contrast and saturation corrections are performed on the dehazed image. [17]
* In this work, a new approach is employed for dehazing in real-time which reads the orientation sensor of mobile device and compares the amount of rotation with a pre-specified threshold. [18]
* The proposed method uses a multilayer perceptron to compute the transmission map directly from the minimum channel and a contrast stretching technique to improve the dynamic range of the restored images. [19]
* Our detailed survey and experimental analysis on DCP-based methods will help readers understand the effectiveness of the individual step of the dehazing process and will facilitate development of advanced dehazing algorithms. [20]
* The proposed method is adapted for RGB Colour model and advantageously also for HSI colour model involving reduced computational requirements and be user friendly and Supposed to have wide application and use. [21]
* In this paper, a novel fast haze removal algorithm from multiple images in uniform bad weather conditions which bases on the atmospheric scattering model is proposed. The key idea is to establish an overdetermined system by modeling the hazy images and corresponding images taken in clear days so that the transmission and global airlight can be obtained. [22]
* The proposed algorithm in this paper can restore images more clearly, with more image edge details retained, and effectively improve visual effect of the scene in haze weather. [23]
* In this paper, we propose a simple but effective image prior - dark channel prior to remove haze from a single input image. [24]
* This paper studies the state-of-the-art in this area and puts forwards their strengths and weaknesses. Through experiments the efficiencies and shortcomings of these algorithms are shared. [25]