

Single image dehazing based upon visibility range through synthetic haze simulation

ABSTRACT

Outdoor images are typically degraded by light scattering and absorption from aerosols, such as dust, mist, and smoke in the atmosphere. Image dehazing aims to improve details on visibility, edge, and texture and retain image structure and colours without data loss. Most of the current hazy database presented in a single image simulated synthetic haze indicated complicated calculation of the depth map. This paper presents a new dataset that includes image pairs of hazy and corresponding outdoor images that are haze-free (ground-truth). On a clear day as referred to as a low Air Pollutant Index, this experiment simulated synthetic haze in the Malaysian outdoor scene. The haze simulation illustrates how this approach can lead to better outcomes in the measurement of image quality than the current state-of-the-art dehazing method.