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Restoration of Obscured Images

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Abstract: *The underwater image processing area has received considerable amount of attention within the last decades, showing important achievements. The underwater image suffers degradation due to scattering and absorption and image has corruptions such as haze and noise. Image quality is often degraded during acquisition, compression, and transmission. Examples of typical deterioration include JPEG block artifact, resolution loss as a result of capture equipment pixel limitations, noise spots introduced at high ISO, and picture blur caused by lens out-of-focus. In our project we use enhancement and restoration algorithms. Image enhancement and restoration is a procedure that attempts to improve the quality of image by removing the degradation while preserving the underlying and significant image characteristics. We use Contrast Limited Amplification using Histogram Equalization (CLAHE), Rayleigh Distribution and Relative Global Histogram Stretching (RGHS) for enhancement of the image. Dark Channel Prior (DCP), Maximum Intensity Projection (MIP) and Underwater Light Attenuation Prior (ULAP) for image restoration*

Keywords: Underwater Image Processing, Image Enhancement, Contrast and Color Enhancement, Noise Reduction, Scattering and Absorption, Underwater Light Attenuation Prior.

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