A

Major Project Report II

On

IMPROVED IMAGE-VIDEO DEHAZING

Submitted in Partial fulfillment of the requirement

For the award of the degree of

MASTER OF TECHNOLOGY

In

(Signal Processing and Digital Design)

Submitted by

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July 2012

DECLARATION BY THE CANDIDATE

July 2012

Date: _____

I hereby declare that the work presented in this dissertation entitled **"Improved Image-Video Dehazing"** has been carried out by me under the guidance of **Mr. Rajesh Rohilla**, Associate Professor, Department of Electronics & Communication Engineering, Delhi Technological University, Delhi and hereby submitted for the partial fulfillment for the award of degree of Master of Technology in Signal Processing & Digital Design at Electronics & Communication Department, Delhi Technological University, Delhi.

I further undertake that the work embodied in this major project has not been submitted for the award of any other degree elsewhere.

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CERTIFICATE

It is to certify that the above statement made by the candidate is true to the best of my knowledge and belief.

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ABSTRACT

Mist and smoke haze is a common weather phenomenon that drop the images' contrast. This is because vapor and dust particles in the atmosphere make fuzzy to scattering of sunlight. Clear and restore a image taking in the condition of haze were of great value in the military defense and navigation and remote sensing object identification areas. Many computer vision applications can benefit from haze free images. These techniques are physically sound and based on theories from meteorology and other disciplines. Currently Image dehazing has become a hot study in the field of computer vision and digital image processing. This algorithm is based on a strong, statistically based prior, the dark channel prior.

Haze, fog, and smoke are such phenomena due to atmospheric absorption and scattering. The irradiance received by the camera from the scene point is attenuated along the line of sight. Furthermore, the incoming light is blended with the *airlight* (ambient light reflected into the line of sight by atmospheric particles).

Keywords– Dehazing, Dark Channel prior, Erosion, Dilation.

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