

# Studying the Effect of Some Image Enhancement Features on the Accuracy of Close Range Photogrammetric Measurements Using CAD Environment

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## SUMMARY

In computer graphics, the process of improving the quality of a digitally stored image by manipulating the image with software is called image enhancement. Advanced image enhancement software also supports many filters for altering images in various ways. We may be forced to apply one or more features of the image enhancement to the low quality photos to improve them for further photogrammetric use. This could be due to some of the unexpected photographic environment, which affect the images quality and needs something to be done to enhance the images for a better view.

Applying such features may affect the accuracy in close range photogrammetric measurements. To find out the effect of these features in the close range photogrammetric measurements accuracy, a theoretical study on applying some of the image enhancement features were studied using CAD environment (3D Studio software), which can be used as an excellent tool for accuracy studies.

Eight of Image enhancement feature were studied, re-size, sharpen, blur, midtone, contrast, highlight, shadow, and brightness. The original images were created using 3D studio MAX as a CAD environment, which enable us to get errorless image for a computer model as a test field. Three images were created (Left, centre, and right) for the test field. Each feature was studied by applying the feature on the original images with different percentages that makes total of 49 projects.. The results was tabulated and statistically analysed to find out the effect of the image enhancement features on the accuracy. The study shows that applying some of the image enhancement features have effect on the measurements accuracy and some have no effect at all. This paper will show in details all steps and the results of the research.