NANYANG TECHNOLOGICAL UNIVERSITY
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College of Engineering

Color Transfer Between Images

Background

Image Processing is commonly used in the art and design industry. One of the most common tasks is to alter the color of an image. Such as removing undesirable color cast such as the yellow color in photos taken under incandescent illumination.

Objectives

This project focuses on 2 algorithms to correct colors in an image through transfer of color characteristics; mainly the 1) Mean and standard deviation method 2) N-dimensional Probability Density Function Transfer with and without Localised Color Transfer using FCN.

Reference image = Image receiving the color characteristics
Input Image= Image that is supplying the color characteristics

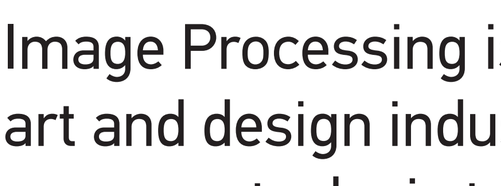
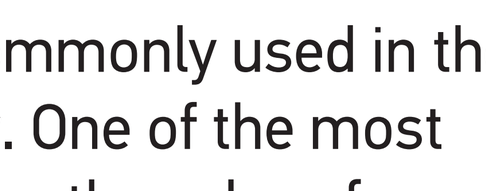
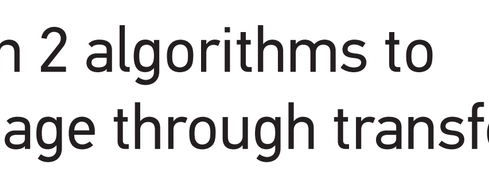
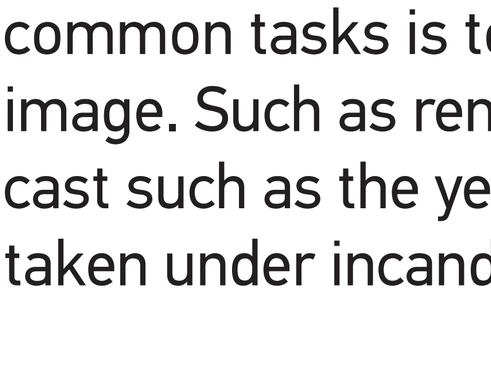
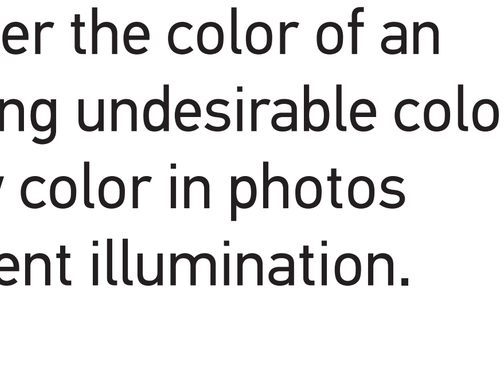
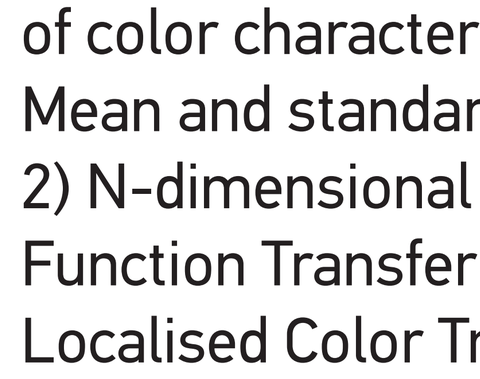
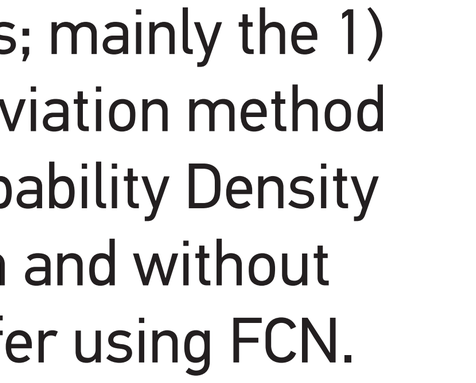
Reference Image	Input Image	Mean and Standard Deviation	N-Dimensional Pdf Transfer
			
			

Table 1

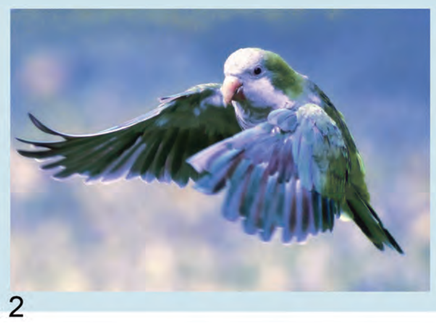
Reference Image	Input Image	N-dimensional pdf transfer	N-dimensional pdf transfer on segmented regions
			

Table 2

N-dimensional Pdf transfer works better than the mean and standard deviation method. The N-dimensional Pdf transfer can be extended to localised color transfer too, which can further improve accuracy of color transfer, as seen in table 2 where the color of the bird can be preserved.

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