ABSTRACT

Colorization is a process of giving colors to image or video with the help of a computer. The objective of colorization is to improve an image or video's appeal and artistic values. This process can also be used to recover colors to old images or videos. However, since grayscale image only store one color channel information, this process requires additional user inputs. One of the colorization method is Histogram Regression. This method works in three steps, which are histogram regression in grayscale and source image, zero-points matching, and finally color transfer process. This histrogram regression method have cheap computation cost, and able to produce fast results. Because of that, the purpose of this final project is to analyze this method's accuracy and speed against various images. From the result of this research, it is obtained that average computation time for medium sized images are ranged between 4 to 8 seconds. Whereas the accuracy if the source image are similar to grayscale image will be ranged between 75% to 90% and ranged between 45% to 75% if the source image and grayscale image are different.

Keywords : *image colorization, histogram regression, color transfer, automatic colorization, computer-assisted colorization*