Abstract

This work presents a simple process for gray image colorization, using a colored image which is similar to this gray scale image but not the colorized version of the gray image. This colored image is retrieved from the data base of colored images that has been created for this purpose. Here, the texture properties of the colored images are extracted and stored. For the purpose of colorization these features are compared with those of the gray image to be colorized and the best matching image is found out from the database. For colorization of this gray scale image a decorrelated color space YCbCr is utilized. This technique is completely automatic and no human intervention is required in the process of colorization. Apart from this the technique presented here is very fast and produces good quality results as compared to the conventional colorization methods. Texture features used here to calculate a texture similarity measure are energy, entropy, contrast, homogeneity, autocorrelation based on correlation matrix as well as coarseness and directionality.

References

- Ambika Kalia, Balwinder Singh, "Colorization of grayscale images: an
Texture Feature Extraction to Colorize Gray Images

- http://www.eecs.berkeley.edu/Research/Projects/CS/vision/grouping/segbench/
Texture Feature Extraction to Colorize Gray Images

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Index Terms

- Computer Science
- Image Processing

Keywords

- Texture Features
- Entropy
- Energy
- Contrast
- Autocorrelation
- Homogeneity
- Coarseness
- Directionality