



كلية الحاسبات والمعلومات

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اسم الباحث:

تاريخ اعتماد تسجيل البحث: 2013/02/18

نوع البحث: تطبيقي

عنوان البحث:

تكنولوجيا مساعدة لمرضى عمى الألوان

طريقة البحث:

عمى الألوان هو مرض وراثي يصيب مخروطات الألوان البصرية بنسب متعددة . و على الرغم من أن نسبة المرض تصل في الذكور إلى 10% و في الإناث إلى له 0,5% إلا أن ثقافة وجود و إنتشار هذا المرض غير موجودة و غالبا ما يعرف المريض أنه خلق بمشكلة بصرية عن طريق الصدفة. و من الملفت للإنتباه أن تلك المشكلة لاتجد في البحث العلمي نصيباً كبيراً !! . يواجه المصابون بهذا المرض على أنواعه مشكلات عدة تبدأ من مشكلات الدراسة منذ الطفولة حيث يتهمون بالقصور العقلي ما إذا ما استطاعوا مثلا تكوين مجموعات من الأشكال المتماثلة في اللون في مرحلة قبل الدراسة.



تاريخ اعتماد تسجيل البحث: 2013/01/03

نوع البحث: أكاديمي

عنوان البحث:

طريقة البحث:

**Colors Hiding refers to the process where the chromaticity values are processed to be hidden in the achromatic channel. This concept can be found in the literature as color protection. In this paper we propose a new color hiding system based on decolorization. Decolorization refers to eliminating the colors to just few color seeds, used in the colorization process. In this paper the proposed decolorization system depends on extracting the color seeds using morphology operations. The proposed Morphological Decolorization System (MDS) can extract very few seeds - compared to other methods - and results in very qualified colorization. The seeds then are hid in the luminance channel after encoding using Least Significant Bit (LSB) with very few bit planes. The results of the system show very high quality color retrieval with high chromatic compression ratio compared to other literature methods**



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عنوان البحث:

طريقة البحث:

**It's a fact that nonlinear color models like Hue-Saturation -Value/ Brightness/ Luminance/ Intensity (HSV/ HSB/ HSL/ HSI) have special feature for each channel. So in this paper we propose a new hybrid compression system that deals with each channel with a suitable compression technique to obtain encoded images with less size and high decoding quality than the traditional encoding methods.**



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**Common compression systems treat color image channels similarly, but while nonlinear color models like Hue-Saturation - Value/ Brightness/ Luminance/ Lightness (HSV/ HSB/ HSL/ HSI) have special feature for each channel, a new hybrid compression system is proposed for encoding color images in HSL color model using new transformation function (YLD). The proposed encoding system deals with each channel with a suitable compression technique to obtain encoded images with less size and high decoding quality than the traditional encoding methods. There are three encoding techniques will be mixed in our proposed system; Object Compression Technique for the Hue channel, Luma(Y) Lightness (L) Difference (D) - for Saturation, and the standard Jpeg2000 encoding technique for the Lightness channel. The proposed system results in very high compression ratio with very good decoding quality.**



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**Image colorization is a new image processing topic which refers to recolor gray images to look like the original color images as possible. Different methods appeared in the literature to solve this problem, the way which leads to thinking about decolorization which means eliminating the colors of color images to just small color keys, aid in the colorization process. Due to this idea, decolorization is considered as a color image encoding mechanism. In this paper we propose a new decolorization system depends on extracting the color seeds using morphology operations. Different decolorization methods was studied and compared to our system results using different quality metrics.**



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**Since the human visual system is sensitive to colors rather than gray shades, we aim to emphasize the appearance of black and white movies and recolor them to obtain near natural colored movies that look like their original colors. The goal of our research is to implement a powerful automatic coloring system that is suitable for coloring movies with high quality colors and in fast time as possible. Our proposed system based on colorizing the movie shot by shot rather than frame by frame, so that different techniques are presented like shot cut detection , motion estimation, similarity features between images and colorization. By this paper we have succeeded to propose and implement a complete automatic colorization system specified for movies and we nearly achieve our goals.**



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عنوان البحث:

طريقة البحث:

**Gray image coloring is utilized to increase the visual appeal of images such as old black and white photos, movies or scientific illustrations. Most of authors working in coloring of gray scale images have used primitive methods for coloring which are both inaccurate and limited. In this paper we propose a new technique for computer coloring gray scale images. This technique works for texture based images like natural scenes. It's based on segmenting the image into different regions according to their textures and then classifying these textures to predefined texture classes to get their real colors. Recognition of these textures is performed by matching these textures with a training set stored in a special database. We validate the efficiency of our coloring system by colorizing several sets of natural gray images with real colors in high quality.**



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