ABSTRACT

Under the influence of digitization, digital still cameras (DSC) are becoming prevalent in recent years. The image capturing and file storing process of a digital still camera involves multiple image processing and precise corrective calculations. In order to reduce cost and volume, a digital still camera usually utilizes only one sensor and color filter array (CFA) for capturing images, and reconstructs a corresponding full-color image using a color interpolation method. Demosaicking is the first step of image processing of digital still cameras and has been integrated into the design of a variety of digital still cameras. If noise and blurred edges exist from the onset of image reconstruction, a post-processing can do little to improve the quality of the reconstructed image. A demosaicking method is proposed in this paper to prevent the occurrence of color artifacts. By detecting the edge characteristics of a digital image, accurate weights can be obtained for image interpolation, before refinement is made in post-processing. After comparing the experiment results of this paper with those of previously proposed methods, it is found that the proposed method can effectively reduce color artifacts and enhance image quality.

Keywords: Color Filter Array; Demosaicking; CFA Interpolation

Table of Contents

1. 緒論
2. 相關研究
3. 利用色彩內插技術的色彩過濾陣列圖像解馬賽克研究
4. 實驗結果
5. 結論

REFERENCES


http://r0k.us/graphics/kodak/