

利用色彩內插技術的色彩過濾陣列圖像解馬賽克研究 = Study of color interpolation techniques for color filter array ...

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摘要

近年來受到數位化影響，數位相機已漸漸風行，數位相機從拍攝影像到存成圖檔的過程中，經過多次影像處理及精密校正運算。為降低成本與減少體積，數位相機通常只使用單一感光元件與彩色濾波器陣列（Color Filter Array, CFA）來擷取影像，再利用色彩內插方法將影像還原成全彩影像。demosaicking被廣泛運用在數位相機的設計中，是數位相機影像處理的第一個步驟，若重建影像一開始就產生雜點與邊緣模糊的問題，再利用後處理也很難改善重建影像的品質，為了減少色彩假像（color artifacts）等問題的發生，本文提出的demosaicking方法是依影像邊緣特性的偵測處理以取得精準的權重將影像內插，最後再透過後處理的技術做一些校正，實驗結果與一些先前提出的方法相比較，能有效降低色彩假像、提升影像的品質。

關鍵詞：彩色濾波器陣列;解馬賽克;彩色濾波器陣列內插法

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