基於人類感知醫療影像浮水印在診斷資訊之研究

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摘 要

近年來，隨著醫療影像的數位化，醫療影像的保護及認證在醫療機構的資訊傳遞中已愈顯重要。 為了避免病人資訊或編號遭到惡意的篡改，在這篇論文中，我們提出了利用基於人類感知技術的數位 浮水印方法將病人診療資訊嵌入醫療影像當中，首先利用Perceptual Quality Measure(PQM)並控制 臨界值大小將醫療影像分為明顯與不明顯區域，將病人資訊嵌入不明顯區域中以減少醫師的誤判可能。 然後使用在離散餘弦轉換(DCT)域下的浮水印方法，來維持加入浮水印後影像的視覺品質及強韌度。實 驗顯示出在加入浮水印後影像遭惡意偽造或是一般影像處理，譬如提高對比亮度、清晰化及JPEG壓縮 後，在不需要原圖的情況下仍可萃取出病人診療資訊，以達到認證的效果。

關鍵詞 : 醫療影像、Perceptual Quality Measure(PQM)、數位浮水印、離散餘弦轉換

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