國立台灣大學技術行銷表

台大案號:_____(由產學組填寫)

產學合作中心聯絡人：　　電話：　　e-mail：

產品/技術名稱	基於視覺特性之影像編碼位元率控制
發明人/單位	歐道聖/台大電信所、黃翊鑫/台大電信所、陳宏銘/台大電信所
產品/技術說明	由於人眼為編碼後影像的最終接收者，影像編碼器在設計時應充分考慮人眼特性。本技術使用了基於視覺感知的誤差衡量指標，設計出一套包含最佳化位元分配的位元率控制方法，提升壓縮後的影像品質。
應用範圍	數位攝影機、數位相機、手機製造商、影音串流、光碟儲存
產品/技術優勢	相較於傳統的位元率控制技術，本技術可以大幅提升編碼效率。在同樣的位元率下，能夠保留更多的結構資訊，提升影像品質。在同樣的影像品質下，所提出的架構最多可減少百分之二十五的編碼所需位元率。
市場潛力	現有影像編碼器一大部分是符合 H.264 編碼標準，本位元率控制技術直接適用於此編碼標準，可用以提升 H.264 影像編碼器的編碼效率。
產品/技術 智財權保護方式	

Marketing Abstract of NTU's Invention Disclosure

NTU's docket no:_____(由技轉室填寫)

TTO contact：　　Tel：　　e-mail：

Title	Perceptual-Based Rate Control for Video Coding
Inventor (s)	Tao-Sheng Ou, Yi-Hsin Huang, and Homer H. Chen
Brief Description	In view of the fact that the quality of encoded video is ultimately judged by human eyes, we take the characteristics of human visual system into consideration in the design of the rate control scheme. On the basis of a perceptual-based distortion metric, we design an optimum bit allocation and rate control scheme, which significantly improves the perceptual quality of the compressed video.
Fields of Application	Digital image/video camera, mobile devices, video streaming, video storage.
Advantages	The proposed scheme significantly improves the coding efficiency over the previous scheme. At the same bit rate, the proposed scheme preserves structural information better and provides better visual quality of the compressed video. At the same quality level, the proposed scheme achieves up to 25% bit-rate reduction.
Market Potential	H.264 is a widely used video coding standard. The proposed rate control scheme can be directly applied to an H.264 encoder to improve the coding efficiency.
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