二維圖樣特徵偵測-以磁振左心室影像及其特徵搜尋為案例

莊家銘、傅家啟

E-mail: 9018601@mail.dyu.edu.tw

摘 要

近年來，由於壓力及生活飲食不正常之因素，心血管疾病有日益增加之趨勢，而磁振造影技術發達且日益進步，對心血管疾病之診斷有極大之幫助，唯其影像雖造影清晰但資料量龐大，有鑒於此，由傅家啟等[4]所發展之電腦輔助診斷系統，雖然已能協助醫師處理磁振造影資料量龐大的問題，但此系統仍需以滑鼠圈選左心室之範圍，才可進一步檢測醫師診斷所需要之左心室內外膜邊界資訊，故本研究期望取代滑鼠手動圈選左心室範圍之步驟，使用配對搜尋演算法偵測搜尋左心室位置，同時將配對搜尋演算法發展改良為一偵測搜尋左心室正確率高、執行速度快之演算法稱為配對搜尋遮罩演算法，並將此改良方法與霍夫變換演算法及配對搜尋演算法進行績效衡量。 本研究所改良之配對搜尋遮罩演算法，成功地克服現行所使用之霍夫變換演算法檢測正確率不良及配對搜尋演算法檢測耗時無法實際應用之問題，也就是配對搜尋遮罩演算法偵測搜尋左心室位置正確率高、偵測搜尋時間快速，故將來應用於現有之電腦輔助診斷系統，應可大幅提升診斷效益，發揮此系統之效能。

關鍵詞 : 配對搜尋、霍夫變換、電腦輔助診斷、磁振影像

目錄

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