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Computer Vision Algorithm for Real Time Breast Cancer Self-Examination

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ABSTRACT

Breast cancer is the major cause of death from cancer among females worldwide. 1.4 million females were diagnosed with breast cancer worldwide with corresponding 460000 deaths in 2010. In the Philippines, the approximate number of breast cancer incidence was 11524, and the approximate number of mortality cases was 4085 among women in 2008. Generally, mortality rate of breast cancer can be decreased by early detection and treatment of the cancer. Proper education and appropriate breast cancer screening methods are essential to solve this universal problem. Based on the literatures, the majority of breast cancers could be first detected during BSE. The BSE is considered as an efficient way to detect breast cancers, if it is performed in the correct way with covering and testing the entire breast region. The promotion of knowledge about breast cancer and BSE in females can be done using an application. Currently, fully interactive systems do not exist and women depend on their subjective feeling while performing BSE procedures. This talk presents computer vision techniques to evaluate the BSE performance. The video processing algorithm, which is developed in this research, is the most important part of the application in which the BSE performance is evaluated in real time.

KEYWORDS: breast cancer; self-examination; computer vision algorithm