Breast Cancer Classification Using WAVELET Transform and Support Vector Machine on Mammographic Images

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Abstract In this research, the aim of the design, simulation, evaluation and comparison of CAD system is able to automatically detect masses in mammographic images are with high accuracy. Our proposed method in this thesis is composed of four main steps. This four steps involve pre-processing, mining areas suspected mass, using wavelet feature extraction, and classification is suspected areas. All steps will be discussed in details, in separate chapters. In this study, there are 55 digital mammography images based on MIAS database and then they import images into your software, send to the software and then analyze them. The first step to analyze the pre-processing to improve image quality mammography and remove additional areas described (WAVELET). In the second step for extracting features include: Contrat, Variance, Energy, Curtosis, Mean and Smoothness for the image mammograms are extracted. In the third step to learning through self-organizing neural network classification images look suspicious regions of non-suspicious areas using support vector machine (SVM) are isolated. To distinguish cancerous non-cancerous samples. Consequently, mammography test and initial testing has shown that up to 81/73 percent classification accuracy using support vector machine (SVM) there. Keywords: breast cancer, mammography, artificial neural networks, support vector machine

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