

عنوان مقاله:

Thermograms Classification To Breast Cancer Detection Using Statistical And Fractal Texture Features Extraction

محل انتشار:

اولین کنفرانس بین المللی دستاوردهای نوین پژوهشی در مهندسی برق و کامپیوتر (سال: 1395)

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خلاصه مقاله:

The breast cancer is one of the widespread causes of mortality in today's world. The exact and precise diagnosis is considered as the vital point in the process of treatment. So, a lot of screening and diagnostic procedures regarding this issue have been proposed. Thermography considered as a widespread, safe, non-invasive, fast and economical procedure comparing with other screening procedures such as mammography. In this article a classification algorithm of thermograms with the purpose of detection of breast cancer based on the extraction of statistical and fractal features has been proposed. For this purpose, 74 images from the breast of healthy people and with the positive symptoms of breast disorder from the data were collected. The preprocessing of data and segmentation of images for both right and left breast in gray level for the creation of temperature matrix was performed. The fractal and gray level co-occurrence matrix base features was extracted from the temperature matrix and the collection of features was the input for support vector machine and weighted K-nearest neighbor classifier. The weighted K-nearest neighbor classifier with the fractal features of with the accuracy of 88.7 was selected as optimal structure couponing with the other method.

کلمات کلیدی:

thermography; classification; gray level co-occurrence matrix; fractal analysis

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