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Bigdata Testing Using ETL and Digital Image Processing

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Abstract: Melanoma is considered to be a fatal form of skin cancer. However, due to their similar visual look and symptoms, it is often difficult to differentiate it from the nevus. The number of cases among children is growing but if it is detected at its earlier stage then the risk of survival is very high. The cost and time needed for the physicians to treat all melanoma patients is very high. In this research work we propose a method that uses state-of-the-art image processing techniques to detect and differentiate melanoma from nevus. Pre processing is initially used to eliminate noise from the skin lesion of the images obtained, followed by the use of enhanced HSV colour space conversion clump to section out the lesion. The extraction of textural and colour choices from the lesion Shape a distinctive hybrid super-feature vector. Support Vector Machine (SVM) is used to classify skin cancer into melanoma and nevus. Our goal is to check the efficacy of the projected segmentation strategy, select the most suitable options and compare the results of the classification Within the literature the opposite strategies are present. Our proposed methodology archives encouraging result

Keywords: Support Vector Machine (SVM), Image processing techniques, distinctive hybrid super-feature vector.

I. INTRODUCTION

Melanoma is a cancer that begins in the melanocytes. Other names for this cancer include malignant melanoma and cutaneous. Most melanoma cells still make melanin, so melanoma tumour usually brown or black. But some melanomas do not make melanin and can appear pink, tan, or even white. Melanomas can develop anywhere on the skin, but they are more likely to start on the trunk (chest and back) in men and on the legs in women. The neck and face are other common sites. Having darkly pigmented skin lowers your risk of melanoma at these more common sites, but anyone can get melanoma on the palms of the hands, soles of the feet, or under the nails. Melanomas in these areas make up a much larger portion of melanomas in African Americans than in whites. Melanomas can also form in other parts of your body, such as the eyes, mouth, genitals, and anal area, but these are much less common than melanoma of the skin. Melanoma is much less common than some other types of skin cancer. But melanoma is more dangerous because it's much more likely to spread to other parts of the body if not caught and treated early.

II.PROBLEM DEFINITION

Skin cancer is classified as a significant contributor to death row causes worldwide. There are various forms of cancers which are found and battled against. Nowadays, however, skin cancer is among fast-growing cancer. Patients with a skin cancer diagnosis are rising significantly more than any other type of cancer each year, according to modern studies. Melanoma is the most common type of skin disease affecting cells on the skin surface known as melanocytes. It is made up of cells which cause the skin to turn to black. Melanoma is typically dark or darker, but at some stage it can also be in the colour of the skin, green, red, purple, blue or white. This type of cancer is very troubling because of its propensity to cause metastasis, i.e., spread ability. Melanoma can be found anywhere on the human body, but is located mainly on the back of human legs. The early diagnosis of skin cancer will help to reduce the risk factor in patients. According to the study, the mortality rate can be reduced by up to 90%, if skin cancer is detected at an initial stage; hence, early detection and recognition of skin cancer is of vital importance. ABCD rule is among the conventional approaches that researchers around the world have followed for detecting melanoma and nevus. For each of the ABCD elements, a complete dermo scope score is obtained with A representing asymmetry, B representing border irregularity, C representing colour variations and D representing the diameter. An individual weight is assigned to each of the respective features based on their importance within the feature space. The lesion is classified as cancerous or benign based upon the measured ranking. A 7point checklist is yet another method used in dermo scope images to recognize skin cancer.

III.EXISTING SYSTEM

The major problem that starts with this system is because of the melanoma and nevus classification the basic major concern of these two are that both of them with visual eyes proves to be identical while one is so fatal and the other one

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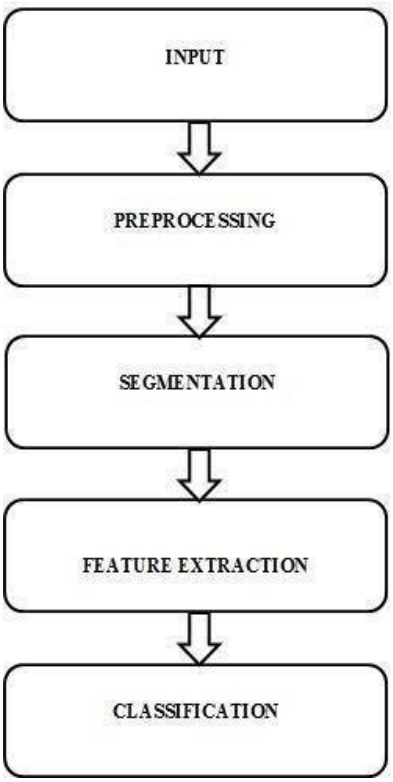
is actually a birthmark or something else. In the existing system uses k-means where the segmentation many lead to a wrong one and when compared K-means clustering produces a output which is less in accuracy.

IV.PROPOSED SYSTEM

In this research work, the proposed method that uses state-of-the-art image process techniques to detect and differentiate melanoma from nevus. Preprocessing is initially used to eliminate noise from the skin lesion of the pictures obtained, followed by the use of enhanced HSV colour space conversion clump to section out the lesion. The extraction of textural and colour choices from the lesion shape distinctive hybrid super-feature vector. Support Vector Machine (SVM) is used to classify skin cancer into melanoma and nevus. Our goal is to check the efficacy of the proposed segmentation technique, Extract the most appropriate options and compare the results of the classification with those of the opposite techniques in the literature. The findings are promising for our proposed approach files.

V. SYSTEM DESIGN

The basic design of the system is to get images that is wished to be verify that it is melanoma or a nevus which under goes various image processing technique and finally with the trained dataset we should be able to classify it either a melanoma or nevus some of the technique used are listed below.



VI. IMPLEMENTATION

Pre processing

Resizing The Input Image

Image Filtering

Dimension Reduction

Segmentation

Colour Space Conversions

Converting Colour Format

Morphological Operations

Feature Extraction

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Classification

VII. CONCLUSION

I have provided in this research project an intelligent method for classifying skin cancer into melanoma and nevus. It is found that the major problem causing the misclassification is identification and segmentation of the lesions. The HSV clustering technique is used to more reliably and effectively separate the ROI from the cancer image. Techniques for obtaining texture and colour characteristics are used to achieve best-suited classification features. GLCM and LBP features are paired with the colour features to produce very good results for texture applications. In this way, this project proposed methodology was able to more reliably and effectively identify skin cancer images into melanoma and nevus

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