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Skin Cancer having a very high mortality rate but has a very good survival rate if detected early. This paper highlights a new method for skin lesion detection which is composed of four stages, including image preprocessing, image segmentation, feature extraction and image classification.

The dataset was collected form university of Iowa, from the department of dermatology. 100 images were collected, their sizes cropped to 256x256 to reduce the computational sources needed for processing. In the preprocessing stage, median filter was applied to remove unwanted structures such as fine hair and bubbles etc. Followed by contrast enhancing technique to make the edges of the lesion prominent. In the image segmentation stage, black and white image was produced with its contrast adjust to provide better segmentation, followed by thresholding technique. During feature extraction, the need for a technique that does not require subjective judgment on feature extraction lead to Wavelet Packet Transform implementation. Technique being very effective since variability is what distinguishes a malignant tumor form a benign one and WPT in its very nature looks at variability with in a signal. Finally, images can be classified as benign or malignant. Models available for classification include back-propagation neural network and support vector machine (SVM). The ability to discriminate was 95% with ANN and 85% with SVM.