In this paper, a new and advance method based upon mixture of methods for classifying benign and malignant melanoma lesions was implemented. It consists of four stages, namely pre-processing stage, segmentation stage, feature extraction stage and classification stage.

Primarily, the images are acquired using the dermatoscopy technique. It is a non-invasive imaging technique that works by applying soaking oil onto the skin lesions to picture subsurface skin structures by making it translucent. Secondly, the images gathered are pre-processed using a median filter which ensures that any unwanted structures are excluded from the image such as fine hair, noise and air bubbles etc. This process is followed by a contrast enhanced skin which make the edges of the lesions prominent. Thirdly, image segmentation is performed that divides the lesion from the skin around it using the thresholding method followed by a boundary tracing algorithm that validates the division. Fourthly, the important features of the image that plays an important role in the distinction of malignant and benign lesions are extracted with the help of wavelet algorithm. This algorithm works by providing detailed information about an image on different scale stressing upon different features in each scale. It presents information such as the texture and granularity of the image. Finally, the images can be classified as either malignant or benign lesions. Two available algorithms for this classification are the Black-propagation Neural Network and Support Vector Machine having the accuracy of 95% and 85% respectively.