Melanoma is considered the most dangerous type of skin cancer. Early and accurate diagnosis depends mainly on important issues, accuracy of feature extracted and efficiency of classifier method. This paper presents an automated method for melanoma diagnosis applied on a set of dermoscopy images. Features extracted are based on gray level Co-occurrence matrix (GLCM) and Using Multilayer perceptron classifier (MLP) to classify between Melanocytic Nevi and Malignant melanoma. MLP classifier was proposed with two different techniques in training and testing process: Automatic MLP and Traditional MLP. Results indicated that texture analysis is a useful method for discrimination of melanocytic skin tumors with high accuracy. The first technique, Automatic iteration counter is faster but the second one, Default iteration counter gives a better accuracy, which is 100 % for the training set and 92 % for the test set.

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