**ABSTRACT**

Skin cancer is the uncontrolled growth of strange skin cells. It occurs when unrepaired DNA damages to skin cells triggers mutations, or genetic defects, that lead the skin cells to multiply readily and form malignant tumors. Image processing is a commonly used method for skin cancer detection from the appearance of affected area on the skin. Artificial Neural Network (ANN) is one of the important branches of Artificial Intelligence, which has been accepted as a brand new technology in computer science for image processing. Neural Networks are currently the area of interest in medicine, particularly in the fields of radiology, urology, cardiology, oncology, etc.

Neural Network plays a vital role in an exceedingly call network. In this paper, a computerised method has been developed to make use of Neural Networks in the field of medical image processing. The ultimate aim of this paper is to implement cost-effective emergency support systems, to process the medical images. It has been used to analyse Melanoma parameters Like Asymmetry, Border, Colour, Diameter, (ABCD), etc. which are calculated using MATLAB from skin cancer images intending to developing diagnostic algorithms that might improve triage practices in the emergency department.

Using the ABCD rules for the melanoma skin cancer, we use ANN in classification stage with Back Propagation Algorithm. Initially, we train the network with known target values. The network is well trained with 96.9% accuracy, and then the unknown values are tested for the cancer classification. This classification method proves to be more efficient for the skin cancer classification.