International Journal of Scientific Research in Engineering and Management (IJSREM)
Volume: 08 Issue: 05 | May - 2024 SJIF Rating: 8.448 ISSN: 2582-3930

SKIN CANCER DETECTION USING CNN

Mr. K. Praveen [*1], Dr. Ch. Srinivasa Reddy [*2]

Department of Master of Computer Applications, Vignan's Institute of Information Technology(A), Beside VSEZ, Duvvada, Vadlapudi Post,
Gajuwaka, Visakhapatnam-530049.

[2]Assistant Professor, Department of Information Technology, Vignan's Institute of Information Technology(A), Beside VSEZ, Duvvada, Vadlapudi Post,
Gajuwaka, Visakhapatnam-530049.

ABSTRACT:

The skin is the main component of a human body and serves to cover all of the body's muscles, bones, and other structures. Many people these days are afflicted with skin cancer. Skin cancer that is most deadly is called malignant melanoma. Melanoma is the most dangerous kind of cancer. It is a massive malignant tumour on the skin, and its spread is growing daily. If melanoma is discovered early on, treatment is straightforward. Melanoma diagnosis involves both automated and clinical procedures. Early detection of malignant melanoma has significant potential with image-based computer aided diagnosis methods. Automatically identifying the type of skin cancer from the pictures can help with a speedier diagnosis and improved accuracy.

INTRODUCTION

The human skin is the biggest organ in the body, covering an area of around 20 square feet. The skin's primary function is to assist the human body in controlling its temperature, shielding interior organs from bacteria and UV radiation, and enabling the perception of touch, heat, and cold. In recent years, there has been a sharp rise in the incidence of skin cancer. Most cases are caused by melanoma of skin cancer-related deaths, and the World Health Organization estimates that 232,000 cases have been documented worldwide. Additionally, it has been reported that rates and age gaps are rising globally each year. As a result, prompt treatment is crucial for early discovery because it increases the likelihood of long-term survival. But if it's not found As a result, it is crucial to diagnose skin cancer early. Dermatologists can identify skin cancer by a straightforward visual inspection of lesions. But the distinction between benign and malignant skin lesions can sometimes be imperceptible, making it a challenging task, even for skilled medical professionals. Therefore, it is great to have medical applications in this field that offer automated skin lesion diagnostics for decision support. Since the early 1990s, a lot of work has gone into developing computer-aided diagnostic (CAD) systems as possible tools for evaluating melanocytic lesions. At first, automated diagnosis was carried out using preset methods that dermatology experts were familiar with, including the ABCD-rule [3]. However, these methods frequently fell short of the necessary accuracy or failed to generalize to new instances

LITERATURE SURVEY

Research on skin cancer diagnosis and different methods for classifying skin cancer disorders is presented by a number of writers and is summarized here. According on statistics and findings from the most significant implementations to date, Ammara Masood et al. [1] reported. They examined the results of various classifiers created especially for the diagnosis of skin lesions and compared their performance. Indications of several factors that impact the performance of the procedure are presented wherever available. They examine the findings derived from various models and propose a framework for comparing the evaluation of skin cancer diagnostic models. Some of the current studies' shortcomings are emphasized, and recommendations for additional research are given. The state of the art in computer-aided diagnosis systems was examined by Nazia Hameed et al. Mengistu et al. presented a method for digital image processing that can be used to identify and forecast the various kinds of skin malignancies. The predetermined classes were followed when supervising the classification system of the kind of cutaneous cancer. For the identification and detection of skin cancer, combining Self organizing map (SOM) and radial basis function (RBF) is significantly superior to KNN, Naïve Bayes, and ANN classifiers. Additionally, it was demonstrated that morphology's ability to discriminate however, the classification accuracy increased when morphology, texture, and colour features were combined.

CONCLUSION

In order to introduce the highly successful VGG16 model for early pneumonia patient prediction, this study used a chest X-ray. VGG-16 is being used in the field of lung disease detection because to its promise as a deep learning model and its capacity to correctly diagnose lung illness using diagnostic images. Using the chest X-ray pictures as training data, the VGG16 model attained a 97% accuracy rate. This work illustrates the promise of machine learning in the diagnosis of lung disease and emphasizes the need for more research in this area to improve accuracy and eventually save lives. This study will help create a more accurate and cost-effective method for early diagnosis of lung pneumonia disease, which will benefit patients and healthcare systems alike. When it came to recognizing pneumonia from a chest X-ray, the VGG16 model did rather well overall.

REFERENCES:

Automatic Detection of Melanoma Skin Cancer Using Texture Analysis, International Journal of Computer Applications (0975 – 8887) Volume 42– No.20, March 2012. Mariam A.Sheha, Mai S.Mabrouk, Automatic Detection of Melanoma Skin Cancer Using Texture Analysis, International Journal of Computer Applications (0975 – 8887) Volume 42– No.20, March 2012

Moletest: A Web-based Skin Cancer Screening System, Dublin Institute of Technology, 2011.] Jonathan Blackledge, Moletest: A Web-based Skin Cancer Screening System, Dublin Institute of Technology, 2011.

11. A hybrid machine-learning approach for segmentation of protein localization data, Oxford University Press, Vol. 21 no. 19 2005, pages 3778–3786. Peter M. Kasson1, Johannes B. Huppa, Mark M. Davis, and Axel T. Brunger, A hybrid machine-learning approach for segmentation of protein localization data, Oxford University Press, Vol. 21 no. 19 2005, pages 3778–3786.

Automatic Diagnosis of Melanoma: a Software System Based on the 7-Point Check-List, Proceedings of the 43rd Hawaii International Conference on System Sciences, IEEE, 2010. G. Di Leo, A. Paolillo, P. Sommella, and G. Fabbrocini, Automatic Diagnosis of Melanoma: a Software System Based on the 7-Point Check-List, Proceedings of the 43rd Hawaii International Conference on System Sciences, IEEE, 2010.

German Capdehourat, Andres Corez, Anabella Bazzano, and Pablo Mus, Pigmented Skin Lesions Classification Using Dermatoscopic Images, Springer-Verlag Berlin Heidelberg, 2009, pp. 537–544

Yogendra Kumar Jain, Comparison between Different Classification Methods with Application to Skin Cancer, International Journal of Computer Applications (0975 – 8887) Volume 53– No.11, September 2012