

## LITERATURE SURVEY

<b>Team id</b>	<b>PNT2022TMID42059</b>
<b>Project Name</b>	<b>AI based localization and classification of skin disease with Erythema</b>

<b>TITLE</b>	<b>AUTHOR AND YEAR</b>	<b>PROPOSED SOLUTION</b>	<b>PROS AND LIMITATIONS</b>	<b>PROBLEM PROPOSED</b>
Detection of Skin Diseases	Md. Nazmul Hossen, Vijayakumari Panneerselvam/ 2022	An image augmentation strategy was followed to enlarge the dataset and make the model more general.	The CNN-based skin disease classification merged with the federated learning approach is a breathtaking concept to classify human skin diseases while ensuring data security.	It is used to detect the skin cancer diseases.
Melanoma type detection	Patil R, Bellary S/ 2021	The gradient descent Similarity Measure presented CNN approach for Text Processing (SMTP).In this research the result in the development of two different methods for identifying the melanoma cancer stages.	The suggested SMTP loss function causes exceptionally little loss in compared to all of the previous loss functions, and this has shown to be very effective in terms of enhancing sensitivity, specificity, and accuracy.	This research resulted in the development of two different methods for identifying the stages of melanoma cancer.

A Simplified Approach for Melanoma Skin Disease Identification	G. Glorindal,S. Arun Mozhiselvi,T. Ananth Kumar,K. Kumaran/2021	An image processing approach with an easily driven Application Programmable Interface commonly known as API, has been proposed to diagnose skin diseases at their earlier stages.	The image processing follows preprocessing, segmentation, feature extraction, and classification steps, which apply contrast stretching and median filter, Fuzzy C Means, Grey Level CoOccurrence Matrix(GLCM), and Gabor filter, Support Vector Machine .	This methodology gives a simple approach to detect a skin disease, especially melanoma.
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Enhanced Skin Condition Prediction	Tryan Aditya Putra, <u>Syahidah Izza Rufaida/2020</u>	In this study,we propose a dynamic training and testing augmentation capable of increasing performance significantly.	There is still only limited research focused on dynamic data augmentation, even in the fields of machine learning and computer vision.	This method delivers a superior result, and this study also shares the searched augmentation policy utilized, which requires extraordinary resources.
Machine learning approach in melanoma cancer stage detection	Rashmi Patil, Sreepathi Bellary/ 2020	This study utilised two different deep learning algorithms, namely the Lesion Feature Network (LFN) and the Lesion Indexing Network (LIN).	The experiment shows that the suggested (LIN) performs better than existing machine learning algorithms for lesion segmentation and classification.	The major three aims in the field of skin lesion image processing to identify the melanoma cancer.

Skin Lesions Classification into Eight Classes for ISIC	Kassem MA, Hosny KM, Fouad MM./ 2020	This method was used to train the CNN from start to finish. In order to train CNN, a dataset consisting of 129,450 clinical photos is used.	It is necessary to determine which malignancies are the most prevalent, and in the second scenario, it is necessary to determine which skin cancer is the deadliest.	The results of the author's experiment, CNN performed better than all of the specialists who were tested in both tasks.
Melanoma Detection	Ichim L, Popescu D/ 2020	The proposed a variety of methodologies that can be used to ensure good training and learning even	This approach enables the classification network to extract more representative and specific	The results in better identification accuracy of melanoma detection.

		with a limited amount of training data to detect the melanoma disease.	features from segmented findings rather of the complete dermoscopy images, hence reducing the quantity of training data that is required to be collected.	
Skin Disease Image Recognition	Ling-Fang Li, Xu Wang, Wei-Jian Hu/2020	The skin disease image recognition method based on deep learning is better than those of dermatologists and other computer-aided treatment methods in skin disease diagnosis	We also analyze the current progress in this field and predict four directions	The traditional and machine learning-based skin disease diagnosis and treatment methods.
Detection of Skin Diseases	Aziz A., Hartono R. and Abdilah R./ 2020	The creation of an expert application of skin disease detection using methods like Naive Bayes, CNN, SVM methods.	The mentioned methods are necessary to help all people who want to know about skin diseases that are being experienced or need information about skin diseases.	The methods is used in this application is used to detect the skin diseases.

An Improved Skin Lesion Matching Scheme	Konstantin Korotkov, Josep Quintana, Ricard Campos, Am�rica Jes�us-Silva, Pablo Iglesias, Susana Puig/ 2019	This method makes optimal use of a trained 19-layer deep CNNs and therefore does not rely on prior	When using cross entropy as the loss function for picture segmentation, which is a normal process, there is a	As a result, an original loss function based on Jaccard distance has also been designed to minimise the
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		knowledge of the data.	severe imbalance between both the amount of foreground and background pixels	requirement for sample reweighting.
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## Problem Statement

Computer-aided diagnosis (CAD) is a computer-based system that is used in the medical imaging field to aid healthcare workers in their diagnoses . CAD has become a mainstream tool in several medical fields such as mammography and colonography . However, in dermatology, although skin disease is a common disease, one in which early detection and classification is crucial for the successful treatment and recovery of patients, dermatologists perform most non invasive screening tests only with the naked eye. This may result in avoidable diagnostic inaccuracies as a result of human error, as the detection of the disease can be easily overlooked. Furthermore, classification of a disease is difficult due to the strong similarities between common skin disease symptoms. Therefore, it would be beneficial to exploit the strengths of CAD using artificial intelligence techniques, in order to improve the accuracy of dermatology diagnosis. This paper shows that CAD may be a viable option in the field of dermatology using state-of-the-art deep learning models.