



International Journal of Research Publication and Reviews

Journal homepage: www.ijrpr.com ISSN 2582-7421

Skin Disease Detection

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ABSTRACT

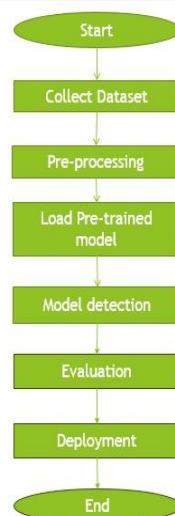
Skin diseases are the most common issue in the world, which affects millions of people every day. Early detection and accurate diagnosis are very important for the treatment. Before, in traditional methods, doctors were not easily detected because most of the diseases looked similar, so sometimes doctors' diagnoses were not right all the time, which may not be available in all the rural and remote areas. So we have developed model using deep learning and image processing to detect skin disease. In this, we use the CNN algorithm for classification of images and the Keras model to analyze skin images and classify various skin conditions with high accuracy. By diagnosing this, doctors can easily diagnose and give the cure for the disease.

KEYWORDS: Skin Disease Detection, Machine Learning, Keras, Android Application,

I. INTRODUCTION:

Skin diseases are the most common issue in the world, which affects millions of people every day. Skin diseases can be like rashes and pimples or serious, like melanoma and psoriasis. Skin diseases should be treated early so that they do not get worse. But in traditional methods, Before, in traditional methods, doctors were not easily detected because most of the diseases looked similar, so sometimes doctors' diagnoses were not right all the time, which may not be available in all the rural and remote areas. So we have developed a model using deep learning and image processing to detect skin disease. In this, we use the CNN algorithm for classification of images and the Keras model to analyze skin images and classify various skin conditions with high accuracy. Skin diseases are classified into seven types, and they are actinic keratoses/Bowen's disease, basal cell carcinoma, benign keratosis, dermatofibroma, melanoma, melanocytic nevi, and vascular skin lesion. By diagnosing this, doctors can easily diagnose and give the cure for the disease. According to the World Health Organization, about 1 in 3 people in the world have skin disease, and that's nearly 33% of the global population. They are the 4th most common issue, and they usually don't cause death. In India, people have 20% to 25% skin disease, which means 1 out of every 4 or 5 people. The most common skin diseases in India are fungal infections, eczema, and pimples.

II. FLOWCHART:



III. METHODOLOGY:

1.Data Preprocessing : In this , they will resize and normalize the skin disease image and then apply the enhancement techniques like contrast adjustment and noise removal.

2.Model Selection & Training : We use a system, and it writes the program called the deep learning model, like the CNN algorithm for classifying images. Then we trained the model, and it detects which skin disease it is.

3.Disease Classification: After the trained model, the system looks for a new skin disease image and tries to find out which skin disease it is, and if there are many types of skin diseases, the system chooses one disease from them, and this is known as multi-class classification.

4.Evaluation : We check the model to see how well it is working or not, like accuracy.

5.Deployment: After the model works correctly and gives good results, we add it into a real app or website. So that people can upload their skin disease image, and then the models will detect the skin disease, which may help them decide if they should go see a doctor for further skin disease treatment.

IV.MODEL AND ANALYSIS:

It describes a deep learning image classification model using the detection of various type skin disease from the image . It uses a pretrained CNN algorithm deployed via Flask to classify the uploaded images into categories .The image classification is into 7 types, and they are Actinic Keratoses/Bowen's Disease, Basal Cell Carcinoma, Benign Keratosis, Dermatofibroma, Melanoma, Melanocytic Nevi, Vascular Skin Lesion.This model is based on mobilenet architecture which is more suitable for deployment. The model file [modelnew.h5] is loaded during application startup using TensorFlow/Keras.

V.RESULT AND DISCUSSION:

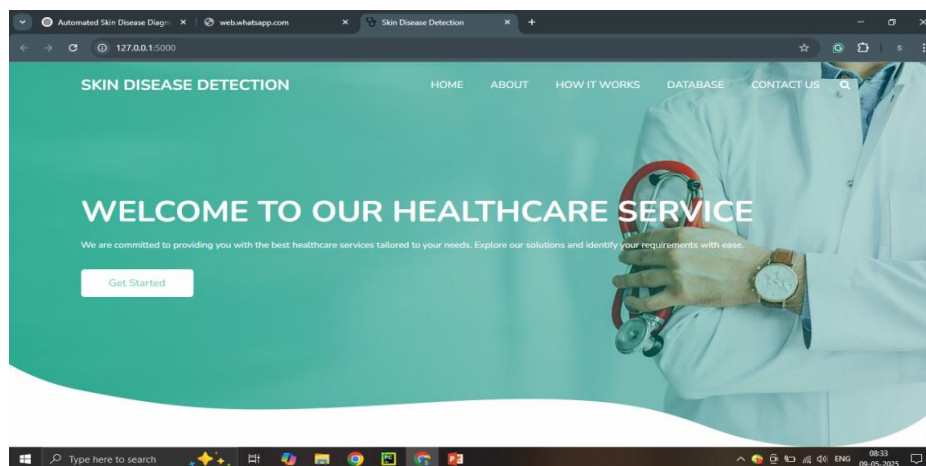


FIG-1: Home Page

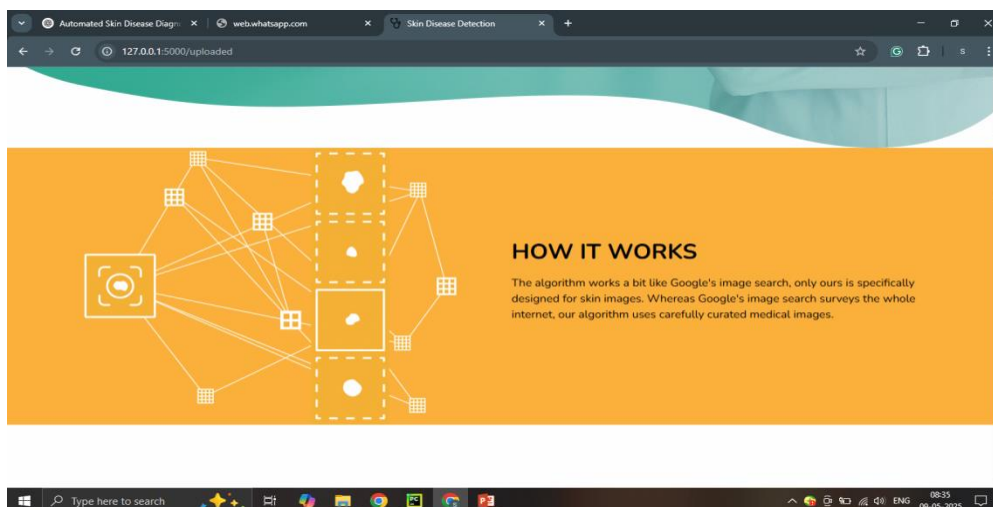


FIG-2: How does it work

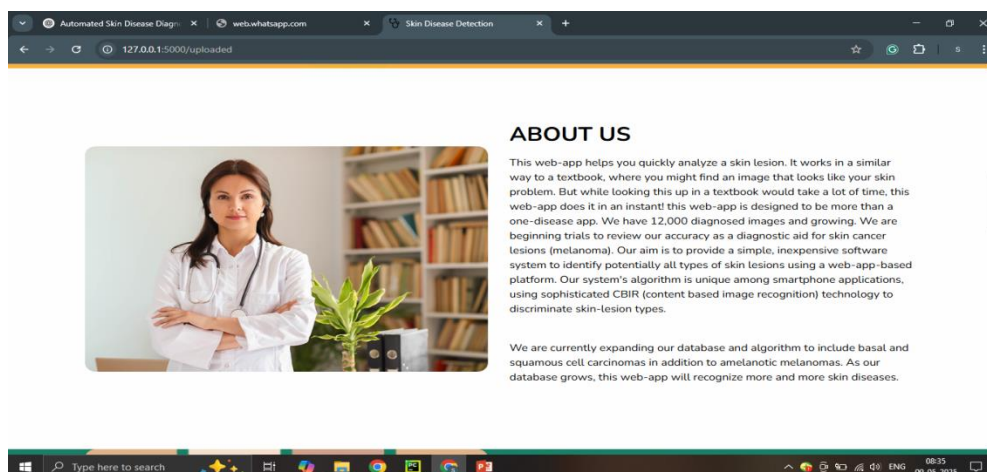


FIG-3: About Us

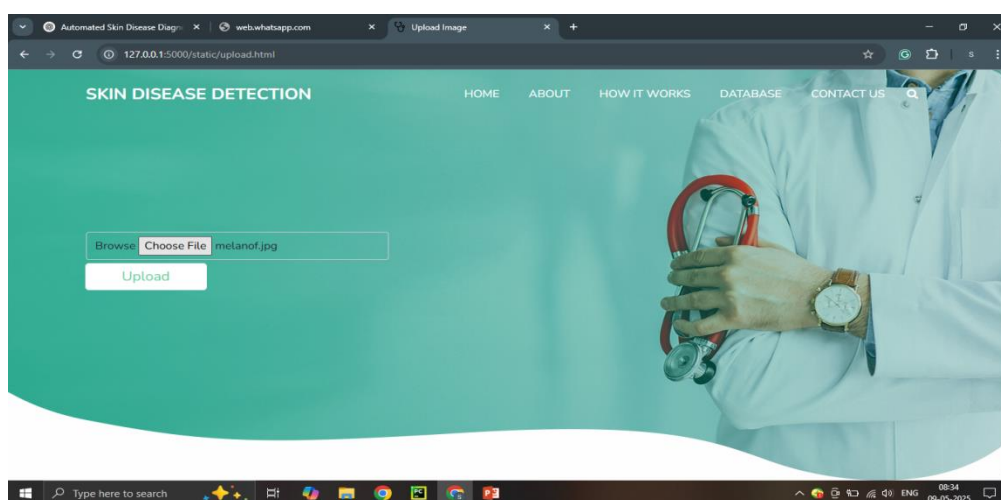


FIG-5: Upload Page

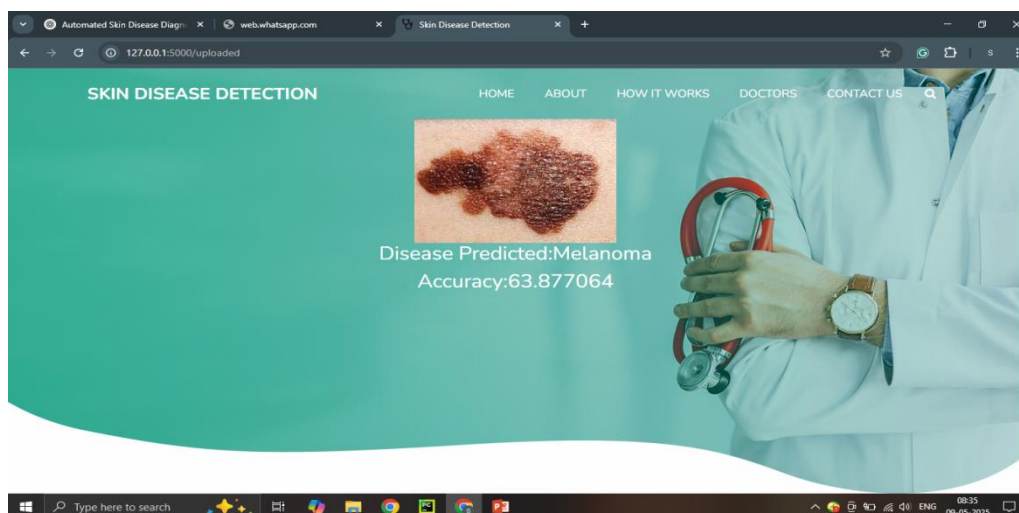


FIG-6 : Uploaded Page

VI.CONCLUSION:

Our project provides a smart & easy way to find your skin disease using modern computer technology. It combines traditional knowledge with deep learning methods. Here it uses an advanced algorithm & a simple website where anyone can access it by knowing their skin disease. People can choose their better skin care products and take care of skin that helps to prevent the major skin care problems. This makes skincare easier to understand by using modern technology.

ACKNOWLEDGMENTS

The authors would like to thank the Department of Computer Science and Engineering, PDA College of Engineering, for providing guidance and resources for the completion of this project. Special thanks to faculty mentors and peers for their continuous encouragement and support throughout the development of this system.

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