Literature Survey

Title:

A Method of Skin Disease Detection Using Image Processing And Machine Learning.

Author:

Nawal Soliman ALKolifi ALEnezi

Published Date:

2019

Abstract:

Skin diseases are more common than other diseases. Skin diseases may be caused by fungal infection, bacteria, allergy, or viruses, etc. The advancement of lasers and Photonics based medical technology has made it possible to diagnose the skin diseases much more quickly and accurately. But the cost of such diagnosis is still limited and very expensive. So, image processing techniques help to build automated screening system for dermatology at an initial stage. The extraction of features plays a key role in helping to classify skin diseases. Computer vision has a role in the detection of skin diseases in a variety of techniques. Due to deserts and hot weather, skin diseases are common in Saudi Arabia. This work contributes in the research of skin disease detection. We proposed an image processing-based method to detect skin diseases. This method takes the digital image of disease effect skin area, then use image analysis to identify the type of disease. Our proposed approach is simple, fast and does not require expensive equipment other than a camera and a computer. The approach works on the inputs of a color image. Then resize the of the image to extract features using pretrained convolutional neural network. After that classified feature using Multiclass SVM. Finally, the results are shown to the user, including the type of disease, spread, and severity. The system successfully detects 3 different types of skin diseases with an accuracy rate of 100%.

Title:

Digital Dermatology: Skin Disease Detection Using Image Processing.

Author :

Navabharathi S, Padmadevi S, Vishnupriya R, Ganesh K

Published Date:

Abstract:

Dermatology is one of the most unpredictable and difficult terrains to diagnose due its complexity. In the field of dermatology, many a times extensive tests are to be carried out so as to decide upon the skin condition the patient may be facing. The time may vary from practitioner to practitioner. This is also based on the experience of that person too. So, there is a need of a system which can diagnose the skin diseases without any of these constraints. We propose an automated image based system for recognition of skin diseases using convolutional neural network classification. This system will utilize computational technique to analyze, process and relegate the image data predicated on various features of the images. Skin images are filtered to remove unwanted noise and also process it for enhancement of the image. Feature extraction using complex techniques such as Convolutional Neural Network (CNN) with Alex Net and classifying the image based on the algorithm of softmax classifier as well as obtaining the diagnosis report as an output. This system will give more accuracy and will generate results faster than the traditional method, making this application an efficient and dependable system for dermatological disease detection.

Title:

Skin Disease Recognition Method Based on Image Color and Texture Features.

Author:

Li-sheng Wei, Quan Gan, and Tao Ji

Published Date:

Abstract:

Skin diseases have a serious impact on people's life and health. Current research proposes an efficient approach to identify singular type of skin diseases. It is necessary to develop automatic methods in order to increase the accuracy of diagnosis for multitype skin diseases. In this paper, three type skin diseases such as herpes, dermatitis, and psoriasis skin disease could be identified by a new recognition method. Initially, skin images were preprocessed to remove noise and irrelevant background by filtering and transformation. Then the method of grey-level co-occurrence matrix (GLCM) was introduced to segment images of skin disease. The texture and color features of different skin disease images could be obtained accurately. Finally, by using the support vector machine (SVM) classification method, three types of skin diseases were identified. The experimental results demonstrate the effectiveness and feasibility of the proposed method.

Title:

Intelligent System for Skin Disease Prediction using Machine Learning.

Author:

Ahmed A. Elngar et al

Published Date:

2021

Abstract:

Skin is an extraordinary human structure. It frequently suffered from many known and unknown disease. Therefore, diagnosis of human skin diseases is the most uncertain and complicated branch of science. It has been observed that most of the cases remain unnoticed because of the lack of better medical infrastructure and facilities. This paper is devoted to solve this challenge. Therefore, this paper effectively proposed (CNN-SVM -MAA) system which combines Convolutional Neural Network with Support Vector Machine classifier to develop a Mobile Android Application. Thus, to evaluate the performance of the

proposed system several experiments are conducted on our dataset. This dataset consists around 3000 images which collected from a lot of sources like Beni-Suef University Hospital, Cairo University Hospital and various websites as well to be more accurate and realistic. A comparative study of applying different Feature extraction algorithms with different classifiers was accomplished. The results obtained showed the adequacy of the proposed (CNN-SVM -MAA) system how many skin diseases images have been detected from skin disease dataset. Which lead to detect skin disease and provide the user with the disease name and treatment related prescription with high accuracy.

Title:

Skin Disease Detection using Image Processing Technique.

Author:

Prem J. Patil, Sagar J. Buchkule , Varsha S. More, Sanket G.Abhale

Published Date:

2019

Abstract:

Skin diseases have become one of the most common diseases all over the world. Most of the time changes in climatic conditions give more impact on the skin which results to some issues. Painful effects of skin disease hamper the mental condition of patient. We propose approach to skin disease detection method based on image processing techniques. This approach has been developed for diagnosis skin disease. It helps to proper diagnosis of affected skin portion, assisting senior expert, suggestion for doctor nearby available, remedies and precautions for particular disease. This project aims to develop skin diseases diagnosis system with a mobile interface, the system is built on a machine learning model to classify the infected images using Bag of Features extraction and develop an ANDROID interface application to capture the images, the designed model has successfully able to classify the infected images of 4sample classes with accuracy of cross-validation method.

Title:

Classification of Skin Disease Using Deep Learning Neural Networks with Mobile Net V2 and LSTM.

Author :

N. Yadav, V. K. Narang, Utpal Shrivastava

Published Date:

17 March 2016

Abstract:

Now a days, skin diseases are mostly found in animals, humans and plants. A skin disease is a particular kind of illness caused by bacteria or an infection. These diseases like alopecia, ringworm, yeast infection, brown spot, allergies, eczema etc. have various dangerous effects on the skin and keep on spreading over time. It becomes important to identify these diseases at their initial stage to control it from spreading. These diseases are identified by using many technologies such as image processing, data mining, artificial neural network (ANN) etc. Recently, image processing has played a major role in this area of research and has widely used for the detection of skin diseases. Techniques like filtering, segmentation, feature extraction, image pre-processing and edge detection etc. are part of image processing and are used to identify the part affected by disease, the form of affected area, its affected area color etc. This paper presents a survey of various skin disease diagnosis systems using image processing techniques in recent times. A comprehensive study of a number of skin disease diagnosis systems are done in this paper, with different methodologies and their performances.