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BLACK FUNGUS DETECTIONUSING MACHINE LEARNING

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ABSTRACT:-
Fungus is extremely disreputable and dangerous for human health and cause various life- threatening diseases to humans. Thousands of different fungus species exist in the world and sporesalways present in environment. Its sign and symptom are non-specific. Mucormycosis also knownas black fungus is a fungal infection that causes discoloration over nose and eye, blurred or doublevision, chest pain, breathing difficulties, fever and cough.The main aim of this project is to analyse and predict the infection probability based on the black fungus images with help of fungus detection system and algorithms to automatically detects fungus using machine learning techniques. we are using in project CNN algorithm.The dataset used is raw data based on the pulmonary Mucormycosis symptoms.

INTRODUCTION:-
COVID-19 is an infectious disease caused by ”Severe Acute Respiratory Syndrome coronavirus 2 (SARS-CoV2)” which is broadly termed coronavirus. Coronavirus disease has created a global pandemic situation as the death toll continues to rise worldwide. Amidst the crisis of coronavirus,a new epidemic called ’black fungus’ is spreading fear in people. Black fungus, formally known as mucormycosis , a potentially deadly fungal infection caused by a group of molds called micromycetes . It is more likely to affect people having diabetes, cancer, HIV or aids, and organ transplant that means having compromised immune systems.
Cases of mucormycosis have been found in patients who are recovering from coronavirus. As coronavirus leaves its patients’ immune systems in a weakened situation, they are more susceptibleto mucormycosis. However, this rare infectious disease is spiraling out of control in India. As of 21 June 2021, 31216 cases of infection and 2109 deaths due to black fungus have been reported.While almost 71% of the global cases of mucormycosis have been reported in India .
Due to the COVID-19 outbreak, around half the population of the world was under complete or partial lockdown, which is still ongoing in some countries. To control this outbreak social distancing, staying at home, quarantine is considered the most effective. Thus, social media and social networking sites became very fundamental for expressing opinions and emotions. COVID-19 has altered the way people use the internet since more individuals are logging on to various social media sites. It is possible to comprehend people’s mental states by analyzing their views and opinions, comments, and posts on various platforms.
After the surge of coronavirus, some studies have been done focusing on sentiment analysis with Twitter data . During the first phase of the COVID pandemic, false and misinformation were spreading like wildfire. This gave birth to different physiological and mental issues for social media users . The impact of black fungus may affect people in the same way. Moreover, people’sperceptions of black fungus can be explored with the sentiment analysis of social media data.

EXISTING SYSTEM:-
In existing methods image content-based techniques were mostly used because those are relatedto skin.Three computer vision-based techniques were developed for the detection of fungus spores.
One of them used HOG based features and achieved convincing results. Other technique consistedof fusion of Fourier transform and SIFT features to achieve promising results.
Third method based on superpixel and handcrafted features. The results of all these techniques

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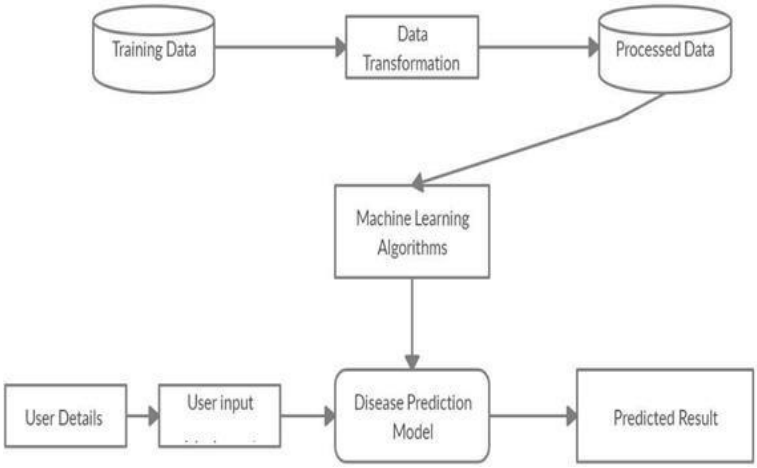
encourage for the possibility of early detection of fungus spores from dirt particles.

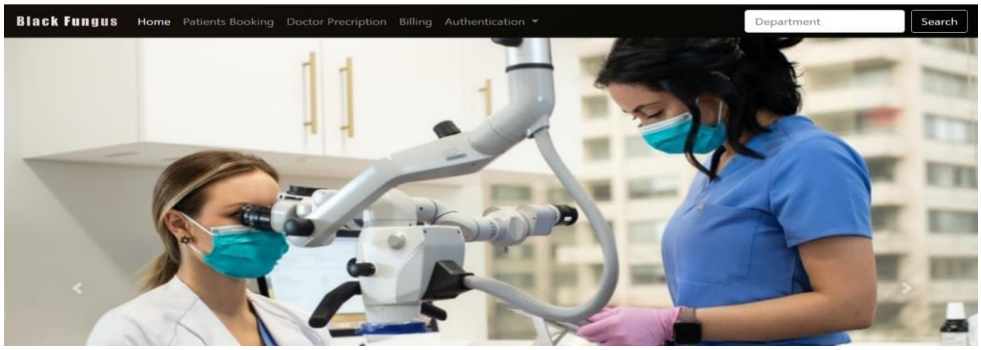
PROPOSED SYSTEM:-

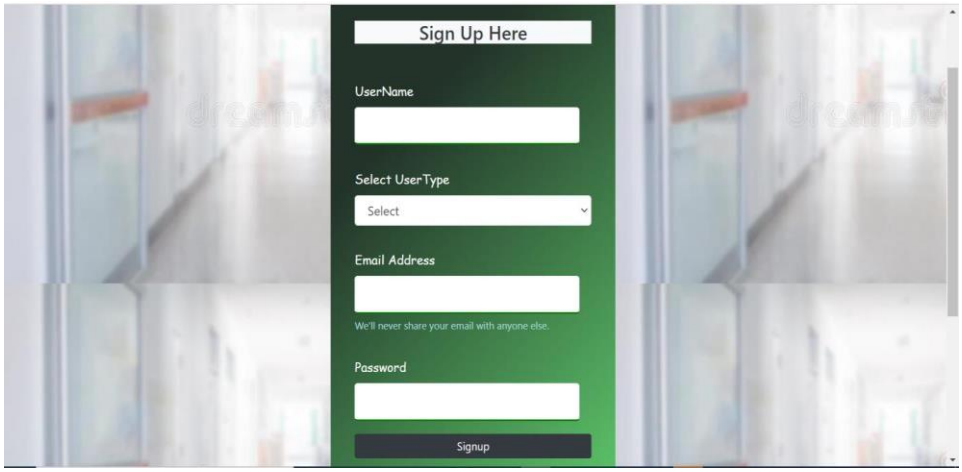
we develop a fungus detection system and algorithms to automatically detect fungus. We use machine learning algorithms like CNN to predict fungus from give input values.
Black fungus detection from symptoms is first of this kind to developer based on test values from dataset. We train dataset and predict results based on given input.

SYSTEM ARCHITECTURE:



RESULTS:-





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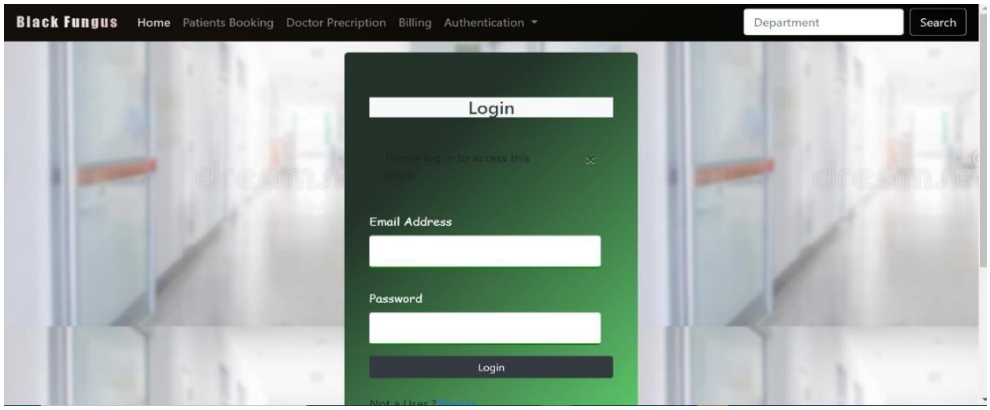

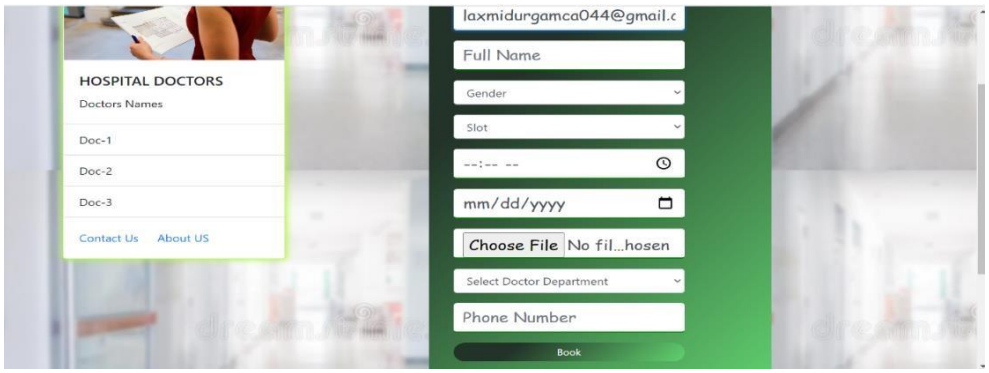

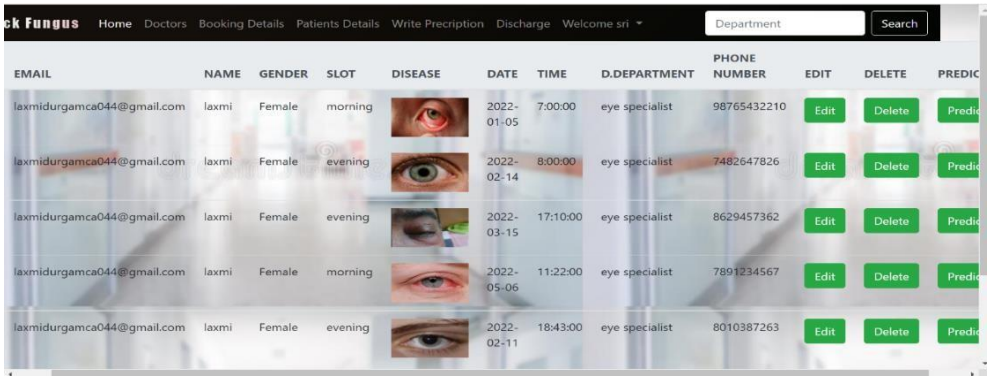

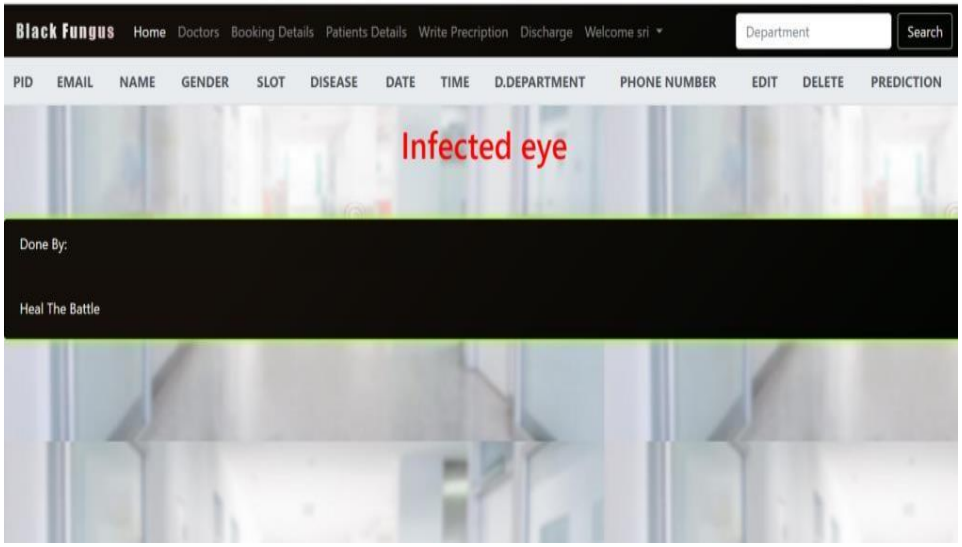

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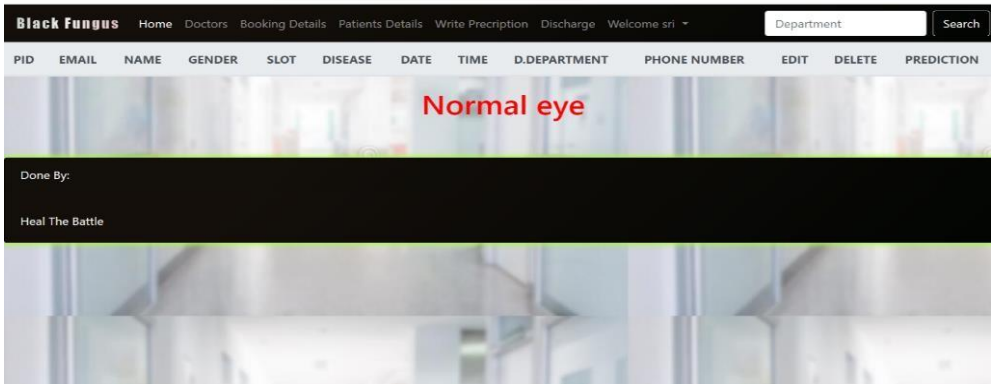

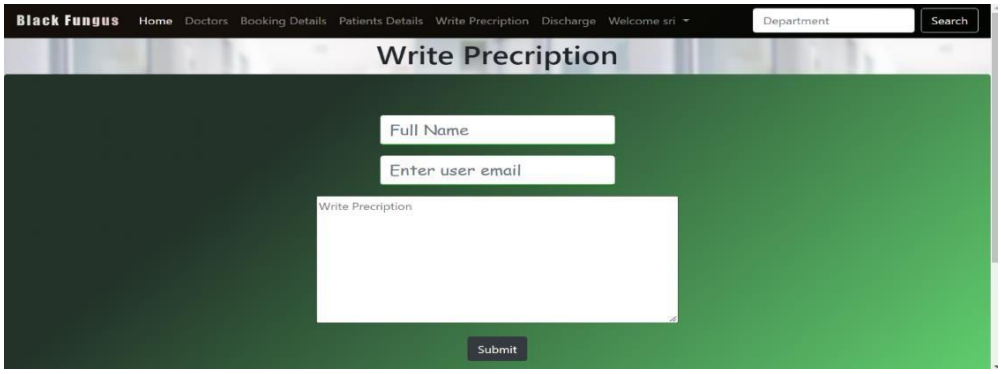

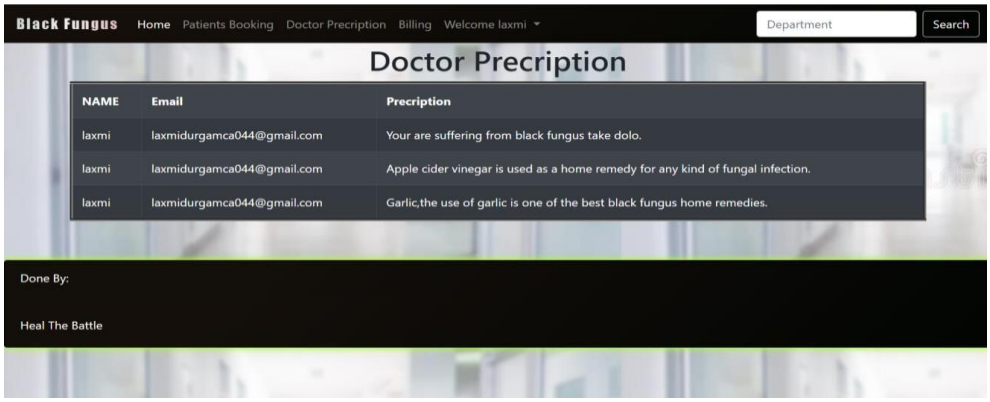

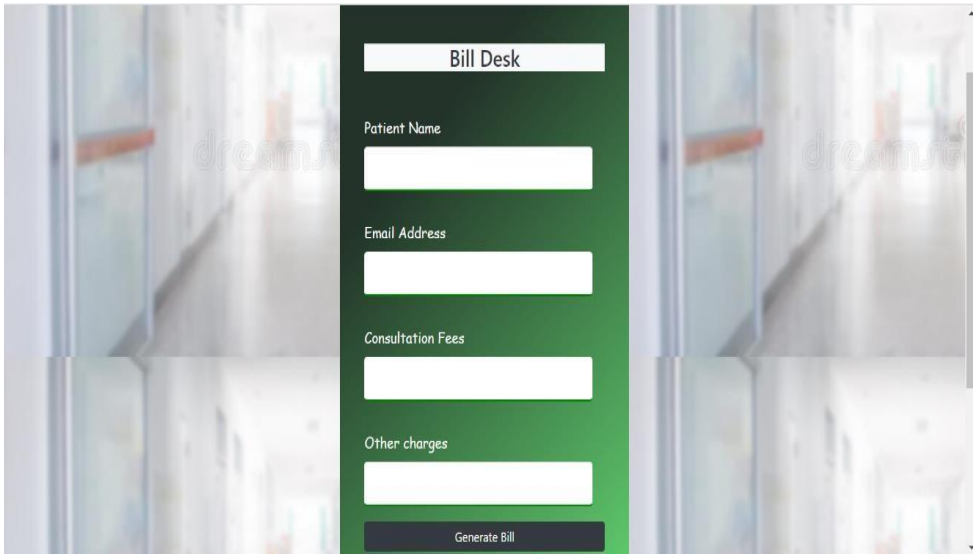

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CONCLUSION:-

In short, the technique presented integrates new technology like CNNs for improving traditional disease detection. New technologies are part of the technique. CNN is an efficient way of carrying out image classification tasks since it can be scaled and processed on a network level. asdemonstrated in this research.

The network also supplies high-dimensional pictures, which are subsequently processed simply.The trained model's accuracy and flexibility improve as a result of these advantages. The trainedmodel can provide high prediction accuracy on a wide range of images.

Dataset on black fungus and collection comprises of about 650 photographs gathered from online across the google. The photographs were captured in a variety of settings and scenarios.

They are illnesses that develop based on the season and factors such as with and without disease. Because not all diseases may be encountered all year round, but only during specific persons, the number of pictures corresponding to each class varies the categories and the quantity of samples used in our system.

The number of samples annotated is equal to the number of bounding boxes marked on the images when information is increased. Each image comprises more than one annotated sample that takesa view of the infected areas of the human eye and the backdrop class is gathered in a category.

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