CSCE 5430: SOFTWARE ENGINEERING PROJECT PROPOSAL

Project Name: SKIN DISEASE DIAGNOSIS AND TREATMENT

Team Members (Group 12)

Sailesh Marimuthu Radhakrishna (11657209)

Harini Konda (11648692)

Gandla Chandana (11639937)

Tekmal Sai Bhavana (11645101)

Motivation:

The body and mental health of an human being can be seriously impacted by skin conditions. So that testing is an important component of traditional diagnostic techniques, but it can be uninteresting and time-consuming. An advancement in this field could therefore be the creation of a web-based system for the identification of skin diseases using a convolutional neural network classifier.

Convolutional Neural Networks (CNNs) have demonstrated success in image identification tasks, such as the detection of skin conditions. To find patterns and characteristics unique to various kinds of skin diseases, these networks are trained using a big dataset of skin image examples. The CNNs is used precisely to detect skin diseases from images uploaded by users.

The system's user interface will be created with providing an access and usability. Users have the option of uploading pictures of their skin conditions or taking pictures with the camera to help with evaluation. The system will then check the skin condition using the trained CNN classifier and present the findings to the user. Additionally, the user will have an offer advice from dermatologists and provides users to register for clinic appointments using a token number. A chat box function will also be available for simple communication between users and dermatologists.

So, that we guarantee precise and trustworthy predictions, the CNN classifier will be trained on a sizable dataset of skin image samples.

Significance:

Convolutional neural networks (CNNs) for diagnosing skin diseases through the Dermat user interface has various significance:

- Early Diagnosis: The suggested method may aid in the early identification of skin conditions, which can result in more effective treatment and better outcomes.
- Access to Expert Recommendations: .People can use the dermatologists advice provided by the Dermat user interface to make well-informed choices about their health. And it avoids misleading diagnosis and unwanted treatment.
- Convenient User Interface: The Dermat is a convenient user interface offers a platform that enables the users to post images of their skin, receive an immediate diagnosis, as well as interact with dermatologists. Patients can save effort and time by registering online for clinic appointments with the token number.

- Valuable Medical History: It enables us to upload the disease name along with medicine details will help the users and doctors to track the success of the treatment. And also provides the perception of the skin specialists.

Objectives:

The main objective of this project is to create a Convolutional Neural Networks (CNN) based system for the identification of skin diseases that can help dermatologists with diagnosis and medical treatment.

Also making it simple for users to share images of their skin conditions using a camera , in order to speed up diagnosis and treatment.

Incorporating the suggestions of skin specialists in Dermat interface in order to provide patients with individualized counsel and direction. To be able to improve access to skincare services and give patients the ease of online booking for clinic appointments with the token , we have to first reduce wait times.to make it simple for patients to communicate with dermatologists by providing a chat box that lets them ask questions, exchange extra information, and get professional guidance.

Features:

The various features of Convolutional neural networks (CNNs) for diagnosing skin diseases through the Dermat user interface are given as below:

1)Web-based platform: The project makes use of a web-based platform that lets users upload skin images and get a skin condition diagnosis.

2)Chatbot: People can communicate with dermatologists and get their questions answered using the chat box The ability to submit medication information can aid in monitoring treatment efficacy and give dermatologists invaluable information for additional diagnosis and treatment.

2)Neural Convolutional Networks: The skin disease classifier is based on Convolutional Neural Networks (CNN) in this project. In image recognition tasks, CNNs are a common type of deep learning algorithm.

3)The TensorFlow Platform: The TensorFlow framework is a well-known open-source software library for building machine learning models, serves as the foundation for this project.

4)Dermat User Interface: A dermatologist-specific user interface is included in the project. A chat box, online registration for clinic visits, and recommendations for skin disease diagnosis and treatment are all included in this interface.

5)Information about the medicine: Users can upload information about the medications they have taken to treat their skin condition.

References:

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3. https://www.medicalnewstoday.com/articles/316622
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5. https://pubmed.ncbi.nlm.nih.gov/32424212/.

Github Link: https://github.com/Sailesh08/Software_Engineering.git