

CATARACT DISEASE DIAGNOSIS

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ABSTRACT :

Cataract is An Eye disease causes blur/cloudy lens of Eye , More than 50% of people in old age suffer due to cataract and will not have a clear vision.If we ignore this after some years some time people mayLoss their eye vision.so that we are developing a ML model which Detects the eye Cataract disease.

For this, we are using sklearn, cv, skimage Libraries and use of ML Classification models like SVM, RFC,KNN.

The ultimate goal of this project is to develop a reliable and accurate tool for early detection of cataract disease reducing the costs ,time consumption .

Project overview

- Data Collection and Creation : using kaggle website
- Data Analysis and Preprocessing :using pandas
- Feature Extraction:skimage , openCV ,GLCM
- Training the Model : SVM ,RFC ,KNN
- Selecting Efficient Algorithm: Depends on highest accuracy

EXISTIING SYSTEM :

- Existing system has 86.9%
- less no.of records used
- deep learning CNN model used (convolutional neural N/ws)

PROPOSED SYSTEM :

- Accuracy improved to 90%
- 3 ML models used SVM , RFC ,KNN
- Medical chatbot related to cataract disease
- new records added from kaggle

Software requirements :

- openCV , skimage ,sklearn
- pandas , Numpy
- javascript , Html , css
- flask framework

Hardware requirements :

- Windows or Linux
- internet connectivity
- CPU: Intel processor with 64 bit support
- Disk Storage: 8GB of free disk space

Applications of project :

- Detection of Eye cataract disease
- Normal/poor people can check cataract disease without going to the hospital
- Chatbot related to cataract disease to resolve the queries
- time saving and money saving
- public health and offering free cataract checkups

OUTPUT :

Cataract Prediction

Choose file 0006.jpg

Upload and Predict

Get Chatbot

Prediction Result

The predicted label for the uploaded image is : **Cataract**

Back to Home

CHATBOT OUTPUT:

The screenshot shows a chatbot interface with a light gray background. It features a series of alternating light blue and light green message bubbles. The first blue bubble contains the chatbot's greeting. Subsequent green bubbles contain user queries, and blue bubbles contain the chatbot's responses. At the bottom, there is a white input field with a placeholder text, a blue 'Send' button, and a green 'Back to Home' button.

Hello! I am a Cataract Disease Chatbot.
How can I help you today?

what is cataract

A cataract is a clouding of the lens in the eye which leads to a decrease in vision.

symptoms of cateract

Symptoms of cataracts include blurry vision, difficulty with bright lights, and seeing halos around lights.

prevention for cateract

To help prevent cataracts, wear sunglasses to block UV rays, maintain a healthy diet, and avoid smoking.

Type your question here...

Send

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CONCLUSION :

The project is aimed to develop an predictive modelling for early detection of cataract using machine learning. from the fundus image the features are extracted using GLCM method these features are converted into the labels and these labels tested agianst the 3 classification models as a result the most accurated output will be generated. so finally withouteven normal/poor people can also diagnose the cataract disease without going to the Hospital and this project saves normal People's money,health as well as time.