Intelli_Doctor

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Abstract: *Intelli_Doctor is a web-based system that predicts a user's disease based on the symptoms they have. Data sets from various health related websites have been obtained for the Disease Prediction system. The consumer will be able to determine the likelihood of a disease based on the symptoms given using intelli_doctor. People are always curious to learn new things, particularly as the use of the internet grows every day. When an issue occurs, people often want to look it up on the internet. The proposed work brings like Thyroid, Stroke, and Dermatology under a single platform by deploying the trained models. Here use ANN algorithms for identifying diseases. The main objective of the Intelli_Doctor Project is predicting the diseases from the symptoms which are given by the user or patient. The system processes the symptoms provided by the user as input and gives the output as the probability of the disease. To detect the Various Diseases through the examining Symptoms of patient's using ANN algorithm.*

Keywords: Artificial Neural Network, Thyroid, Dermatology, Stroke

I. INTRODUCTION

The system known as Intelli_Doctor uses symptoms provided by patients or other users to anticipate illnesses. The user's symptoms are processed by the algorithm, which then outputs the likelihood that the user will get the condition. A deep learning method is utilised in this case to forecast the sickness. Accurate analysis of medical data helps with early illness identification and patient care as biological and healthcare data volumes rise. Patients can manually enter their symptoms via the website when utilising ANN to forecast ailments including thyroid, stroke, dermatology, and more. No need to waste time in hospitals because the results are always available on the website. By using the learned models, the proposed effort unifies domains including dermatology, thyroid disease, and stroke on a single platform. Use ANN algorithms to detect illnesses in this instance. The major goal of the Intelli_Doctor Project is to diagnose illnesses based on the patient's reported symptoms. The user's symptoms are processed by the algorithm, which then outputs a likelihood of the ailment. Utilising an ANN algorithm, identify various diseases by looking at patient symptoms. Several recent techniques used a constrained set of factors to evaluate the sickness. As a result, it might not be possible to predict which diseases the impacts of the disease would produce. During a lot of analysis over existing systems in health care analysis considered only one disease at a time. In this project Intelli_Doctor it analysis four diseases, dermatology, stroke and thyroid respectively.

II. LITERATURE SURVEY

Akkem Yaganteswarudu [1] proposes a Naïve Bayes classification and Flask API to predict multiple disease. In this article, a system that uses the Flask API to forecast numerous illnesses is proposed. This article previously examined analyses of diabetes, diabetes retinopathy, heart disease, and breast cancer. Later, more disorders might be included, such as skin conditions, fever tests, and many others. TensorFlow, Flask API, and machine learning techniques were utilised to implement numerous illness analyses. The advantage of this paper is anticipating the likelihood that certain diseases would manifest and can also lower the mortality ratio.

Indukuri Mohit [2] proposes Support Vector Machine (SVM), KNN, Logistic Regression for classifying disease. His whole body of work focuses on applying machine learning classification algorithms to forecast hazardous illnesses. Diabetes, heart disease, and breast cancer are all covered in this study. Our team developed a medical test online application that uses the idea of machine learning to generate predictions about various diseases in order to make this run

smoothly and be accessible to the general public. Our goal in this effort is to create a web application that utilises machine learning to provide predictions regarding numerous diseases, such as breast cancer, diabetes, and heart disease.

Sneha Grampurohit and Chetan Sagarnal [3] presented the work on Disease Prediction using Machine Learning Algorithms. This work use Data mining, Decision Tree classifier, Random Forest classifier, and Naive Bayes classifier for classifying multiple disease here A Sample data of 4920 patients' records diagnosed with 41 diseases was selected for analysis. A dependent variable was composed of 41 diseases. 95 of 132 independent variables(symptoms) closely related to diseases were selected and optimized.

III. METHODOLOGY

In this section consists of the methodology adopted by our proposed work. As previously said, the goal of our study is to create a web application that uses deep learning models to identify disorders including thyroid, stroke, and dermatological disease. This technique use an artificial neural network algorithm to categorise illnesses.

- Data pre-processing: Clean up the acquired data, prepare it for analysis, and deal with any missing values as part of the pre-processing procedure.
- Feature selection: Decide which elements in the pre-processed data are most crucial for forecasting the target illnesses. Neural network architecture design: Create an appropriate ANN architecture for the chosen characteristics and target illnesses. An input layer, one or more hidden layers, and an output layer should all be included in the design. Testing and experimentation may be used to determine the number of neurons in each layer.
- Training the ANN: Utilising the pre-processed and chosen data, train the ANN. In order to reduce the discrepancy between the expected and actual results, this entails modifying the weights and biases in the network using an optimisation technique.
- Testing and evaluation: Test the trained ANN's performance with a different dataset that wasn't utilised in training. Measure the system's performance using measures like accuracy, sensitivity, specificity, and F1 score.
- Deployment: Use the trained ANN to create a disease prediction system that patients and medical staff may use.

Data sets used

Data was gathered using Kaggle datasets, which are publicly available sources. Here use three datasets thyroid dataset, stroke datasets, and dermatology datasets.
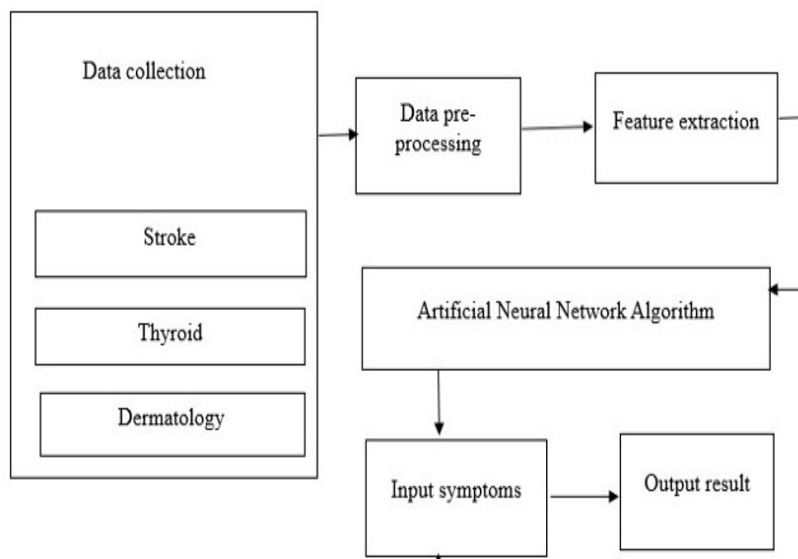
IV. SYSTEM ARCHITECTURE

Fig:1 System Architecture

This software contains three modules patient, doctor and admin. patient login to this system using their mail id and password and select their field that is stroke, dermatology and thyroid. Then enter their symptoms and system predict their disease and also, patient can chat with doctors. Doctor can replay to patient. Admin can add Doctors and view patients and doctors.

V. CONCLUSION

The needs discovered during the requirement analysis phase, which were satisfied in the creation of this project, have been met by the "intelli_doctor" project. The project's correctness was verified, and the findings were deemed to be satisfactory. The tasks are broken up into modules. As a result, the new system is more trustworthy, precise, effective, and efficient. The ability for an admin to easily regulate coring all branches. It satisfies all client criteria as well as service provider standards. The system's user interface was intended to be straightforward and accessible for users.

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