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Deep Learning for Informatics Using Fuzzy Logic

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ABSTRACT: In the present society getting awareness on the health, hospital monitoring, nutrition details and the educational job portal gathered together is the challenging task to the people. To gather these data from the various sources is also bring more anomalies in the existing system. It only creates the health as a service platform in cloud computing for the user with the fuzzy logic. But the accuracy and performance is not in the expected level. The existing system will not bring the dynamic information on all the domains and will not give any alert notifications. The existing system is not flexible in the data accuracy and also in the performance of retrieving the data. The proposed system rectifies the existing system disadvantages by embedding the various field of information with the deep learning techniques. The content based filtering technique in the collaborative filtering and attribute based encryption technique is used in this proposed system. The proposed system is embedded with various platforms that work together to bring the user to gather the needed information more reliable and also flexible. Cloud computing technology brings the convenient to store and retrieve the data for the user with the more accuracy and performance level.

KEYWORDS: Deep Learning, Cloud computing, Health Informatics

I. INTRODUCTION

Deep learning has in current time place a stirring novel drift in machine learning. The notional basics of deep learning are embedded in the traditional neural network (NN) prose. However it is abnormal to more established use of NNs, deep learning accounts for the utilization of various unseen neurons and layers normally more than two as an architectural benefit mutual with novel research paradigms. While resorting to many neurons allows an extensive coverage of the raw data at hand, the layer-by-layer pipeline of nonlinear combination of their outputs generates a lower dimensional projection of the input space. Each lower-dimensional shelf corresponds to a superior perceptual altitude. Provided that the network is optimally weighted, it results in an effective high-level abstraction of the raw data or images. This high rank of concept renders an automatic attribute set, which or else would include essential hand-crafted or bespoke features. In field such as health informatics, the making of this habitual attribute set exclusive of human intrusion has a lot of reward. For occurrence, in medical imaging, it can produce features that are more complicated and hard to detail in expressive way.

The deep learning will give the awareness of knowing the current health condition, fruit calories level, and many other health details more spontaneously. This project will bring the convenience of getting the gathered information on the health care, hospital details, human body BMI and about the current vacancy available in the government sector. By this facility, the user can know the details more dynamically. Various deep learning techniques are used to extract the information on the category based. This extension of the field in this project will build the bridge between health care and the job recruitment availability in the current status. This application software will enhance the women to guide the day to day activities. This application includes the medical checkup alert, medical history, and doctor's appointment. In addition to that, the medical history is encrypted in both the doctor and user history. Also, they can get nutrition alert, hygiene, information, investment ideas, interview ideas, and safety ideas. This application is

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developed through the deep learning ideas and the techniques in the applications also for the government job recruitment and the current notification in the portal.

II. LITERATURE SURVEY

[1]In this paper the author describes the health care system in which Fuzzy logic is used to recommend the user to retrieve the information through online. Fuzzy logic is used to classify the patient details and retrieve the proper recommendation through smart device. The heart disease is focused as the main theme for the patient recommendation. It has been categorized into four problems of the heart diseases. The network has been opened at any time of cost to give the message in case of emergency. The disadvantage in this paper where only the heart disease patient details is been analyzed.

[2] This paper proposed to detect the lung cancer in the earlier stage. Neural network is been use to clarify the images of the lungs which is normal or abnormal conditions. Fuzzy logic technique is been used to classify the cause of cancer in lungs that is on the basis of their health condition. The set of input image have been scaled that will give the combined output to predict the lung cancer. It diagnoses the patient health condition with the set of parameters. The main disadvantage is the prediction done only in the lungs not for all diseases prediction.

[3] This paper proposes the health care service on cloud computing on machine learning techniques. The parallel particle swarm optimization technique is utilized in the maximum manner to predict the chronic kidney technique in the patient. The performances level is calculated through linear regression and neural network. Patient and doctor details are gathered through intelligence sensor. It also analysis data through the virtual machine and the cloud brokers in the application.

[4] This paper proposes the health informatics technologies. Patient health records is been maintained in this system where the clinical and the outcome is been clarified. By this the consumer cost is been reduced. Electronic health records are been stored. Patients database is been managed by the elastic nature to size of database. By this the application is increased gradually in the application.

III. PROPOSED WORK

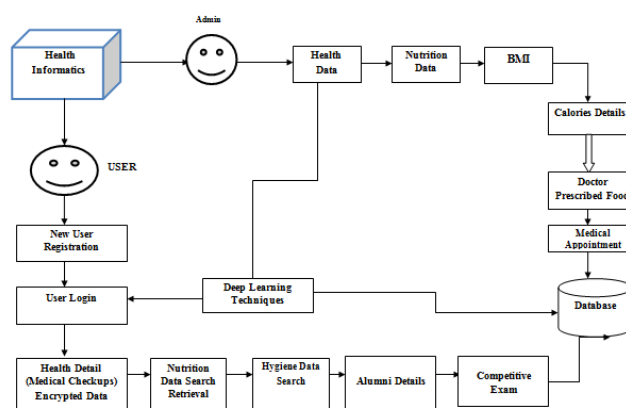


Fig 3.1 Proposed Architecture

In the proposed system the client will register and login to the home page with the proper authentication and authorization. The user can get the doctor appointment with the token number in the mail in the form of notification.

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The user can see the doctor details based on their demand of specialist. The medical history can viewed by the both the doctor and the user. The doctor can see the client details who request to make an appointment. The doctor can also view the diseases details and the medical reports of that particular that are encrypted in the cloud. It also facilitates the doctor to prescribe the proper foods that have to be taken for the particular patient.

The next appointment due date is been displayed when the user entries into their profile page. This proposed system will also facilitate the end user to view their BMI and also calculate the daily consumption level of calories level. It also suggests the user about the calories to be taken daily. The calories details of any fruits and vegetables are also displayed in the web page. The vitamins and minerals deficiency, source, functionalities are also defined.

The proposed system also facilitates the end user to know about the job vacancies, last date for application and educational details are displayed with the relevant information of railway, TNPSC, bank jobs. The alumni details of any field can be connected easily by viewing the details in the website of the proposed system. The event details and the suggestion details are also been posted in the website.

Methodology

Collaborative Filtering

Collaborative filtering (CF) is a method used by suggested systems. Collaborative filtering has two wits, a contracted one and a more general one[7]. **Item-based collaborative filtering** is a model-based algorithm for building suggestions. In the algorithm, the similarities between unusual items in the dataset are intended by using one of a number of comparison events, and then these resemblance values are used to forecast ratings for user-item pairs not present in the dataset.

Attribute-Based Encryption

Attribute-based encryption is a type of public-key encryption in which the secret key of a user and the cipher text are dependent upon attributes. In such a system, the decryption of a cipher text is possible only if the set of attributes of the user key matches the attributes of the cipher text. A crucial security aspect of attribute-based encryption is collusion-resistance: An adversary that holds multiple keys should only be able to access data if at least one individual key grants access

IV. RESULTS AND DISCUSSION

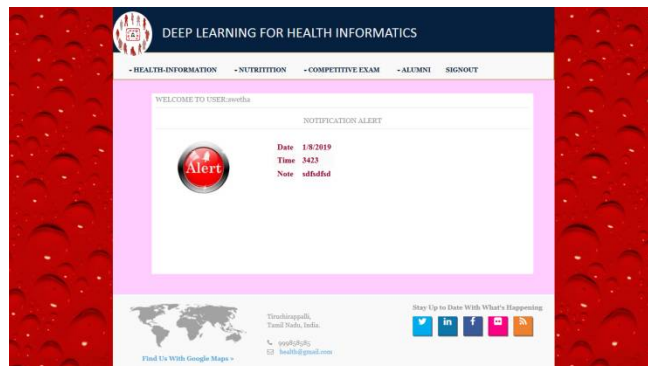


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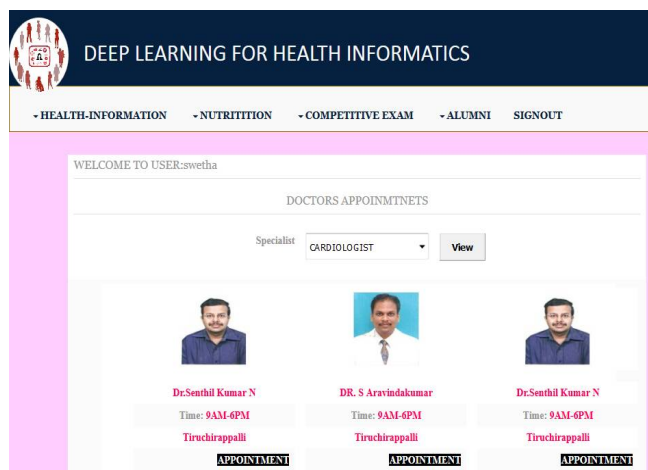
Alert

Date: 18/06/2019
Time: 14:23
Note: updated

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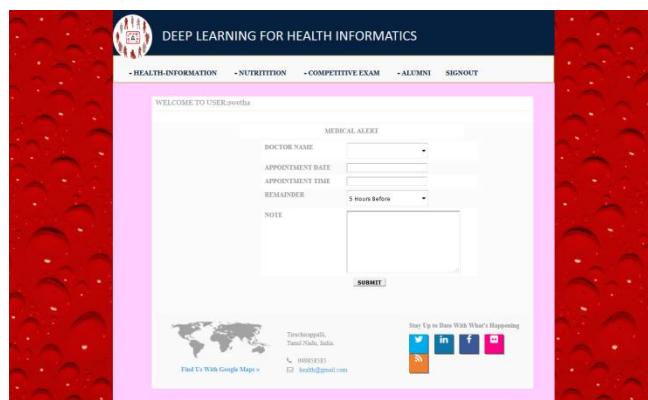
Specialist:

		
Dr.Senthil Kumar N	DR. S Aravindakumar	Dr.Senthil Kumar N
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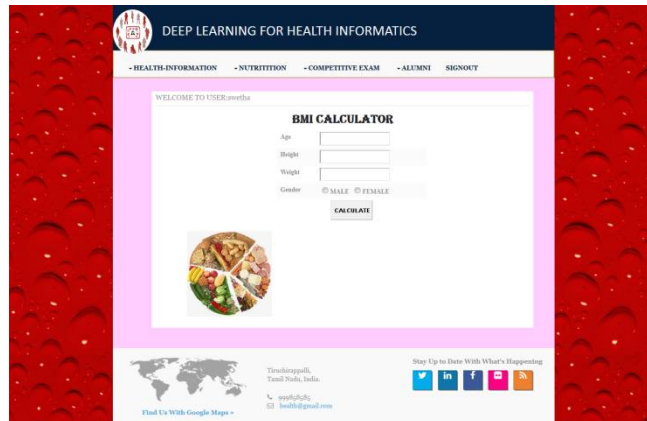
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BMI CALCULATOR


Age:

Height:

Weight:

Gender: ☒ MALE ☐ FEMALE


CALCULATE

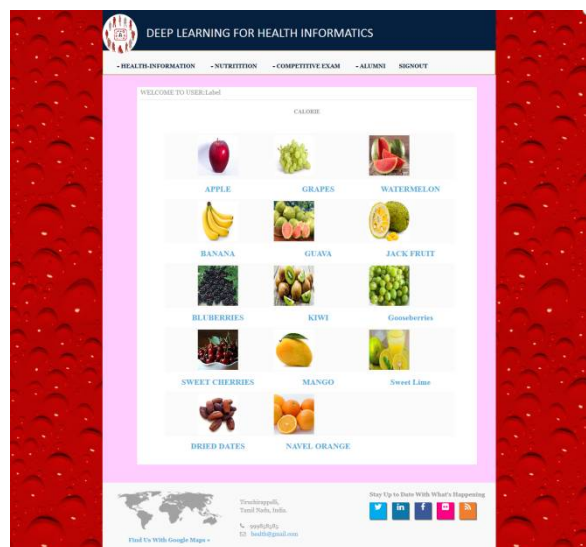


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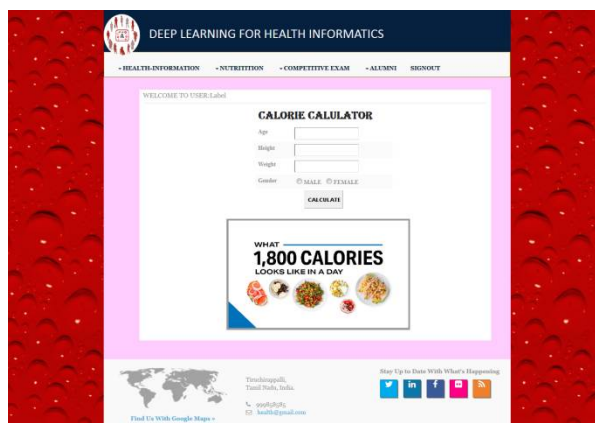
 APPLE	 GRAPES	 WATERMELON
 BANANA	 GUAVA	 JACK FRUIT
 BLUEBERRIES	 KIWI	 Gamboge
 SWEET CHERRIES	 MANGO	 Sweet Lime
 DRIED DATES	 NAVEL ORANGE	

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1,800 CALORIES


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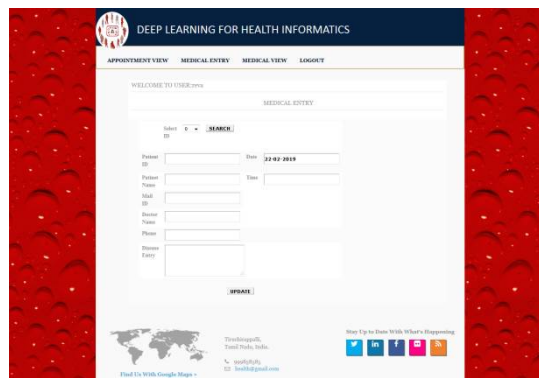

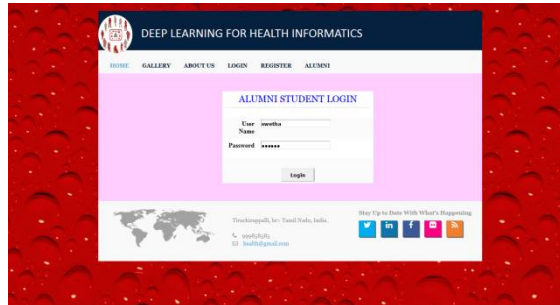


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V. CONCLUSION

Thus the proposed system concludes that this application is integrated with many modules and it will be efficient to the users. They can easily access and get their notification through mail. This application intimates the user to do the things in proper manner. Many features can be extended for the user in single application. In the future work the many field features can be integrated and embedded with many modules in a single web application that will bring the convenience for the end user.

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