

# SMART HEALTH PREDICTION USING DATA MINING

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## **ABSTRACT:**

Nowadays everything is going through smart process like smart electronic products like robots even for the home applications we are using smart products. Here we are using these smart technology in the healthcare system because there is no person without the health issue to go hospital even the hospital are very busy of patients and doctors. But currently the pandemic moment even having a sickness the doctors don't seem to be offered to treat the patients and also the reason is lack of the doctors and increase of the sickness. Due to this we are introducing a method called smart health prediction where the doctor and patient they always get interacted with specific data of the disease and the reports of the disease. The doctor can even treat in online of suggesting the required medicine to take. If the disease of the patient is treated by the medicine he is advised to take the medicine otherwise the patient is requested to take appointment of the specialist doctor for the treatment for the operation or if the patient is not satisfied with the suggestions of the doctor. By this process the health case system is taken chance to cure the disease of the patient and for treatment through the smart health. These smart health helps a lot to the people who are unable to visit the hospital directly.

## **1.INTRODUCTION**

Data mining is one of the foremost important and motivating spaces of analysis with the target of finding meaty data from immense information sets. In the gift era, data processing is changing into common in the care field as a result of there's a requirement of economical analytical methodology for police work and valuable data in health information. In health trade data processing provides many edges like the section of fraud in insurance, the convenience of medical resolution to the patients at a lower value, detection of cause of disease and identification of creating economical care policies, constructing drug recommendation systems, developing health profiles of people.

It might have happened such an outsized quantity of times merely|that you just} simply or someone you wish doctors to facilitate right away, however, they don't seem to be on the market because of some reason. The Health Prediction system is an associate user support and on-line consultation project. Here we tend to propose a system that allows users to urge instant guidance on their ill health through an associated intelligent trending system on-line. The system is February with various symptoms and conjointly the unwellness associated with the system. The system permits the user to share their symptoms and issues. It then processes the user's symptoms to envision various diseases that will be associated with it.

## **II.LITERATURE SURVEY OF DATA MINING:**

The best procedure for taking data mining beyond the rule of academic research is the three system approach. Implementing all three systems is the way to drive a real-world improvement with any analytics initiative in healthcare. Unfortunately, very few healthcare organizations execute all three of these systems. The primary care issues, notably within the malady facet and analysis results are illustrated within the given table. The diseases area unit common issues in humans. To research the influence of the information mining applications for characteristic malady, the traditional strategies of applied mathematics applications are given and compared. The analytics system incorporates the technology and expertise to accumulate information, comprehend it, and standardize measurements. Aggregating clinical, patient satisfaction, financial, and other data into an enterprise data warehouse (EDW) is the foundation of the system. The content system includes standardizing knowledge work. It applies evidence-based best practices to care delivery. Scientists make significant discoveries each year about clinical best practice, but as mentioned previously, it takes a long time for these discoveries to be incorporated into clinical practice. A strong content system permits organizations to place the most recent medical conformation into observation quickly. The preparation system involves driving amendment management over new ranked structures. notably, it includes implementing cluster structures that empower systematic, enterprise-wide preparation of best practices. It needs a true ranked

amendment to drive the adoption of best practices throughout a company.

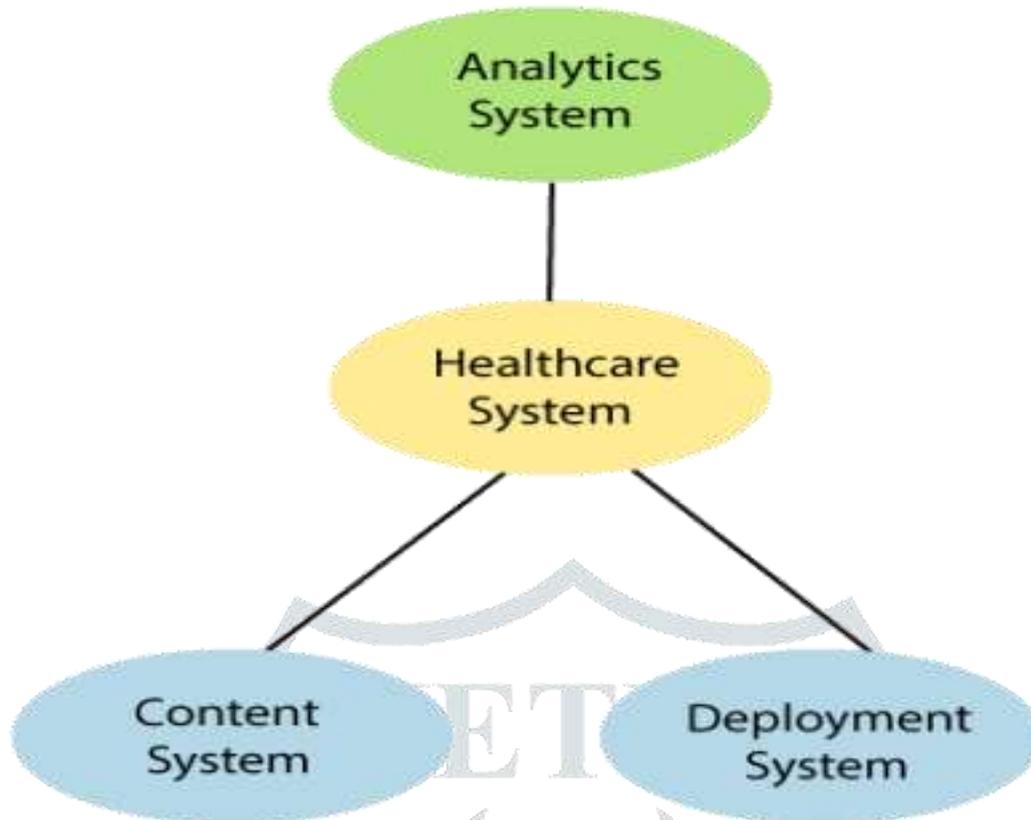


FIGURE.1:Data mining approach

### 2.1.ADVANTAGES OF DATA MINING APPLICATION IN HEALTH CARE:

Information technologies in aid have enabled the creation of electronic patient records obtained from observation of the patient visits. This data includes patient demographics, records on the treatment progress, details of examination, prescription drugs, previous anamnesis, science lab results, etc. system simplifies and automates the progress of health care establishment. Privacy of documentation and moral use of data regarding patients could be a major obstacle for data processing in drugs. so as for data processing to be a lot of actual, it's necessary to form a substantial quantity of documentation. Health records are non-public data, nevertheless, the employment of those non-public documents could facilitate in treating deadly diseases. Before the methoding process will begin, aid organizations should formulate a transparent policy regarding the privacy and security of patient records. This policy should be totally enforced so as to confirm patient privacy.

The tasks of association are accustomed to facilitate strengthening the arguments concerning whether or not to interact or eliminate bound rules within the information model. Tasks of the managers that manage the quality of the aid services are delineated as optimisation of clinical processes in terms of medical and body quality moreover because Key queries of the method of aid quality management are quality of information, standards, plans, and treatments[7]. data processing is utilized by quality managers to resolve the subsequent tasks: Discovering new hypothesis for indexes of quality for information, standards, plans and treatments; Checking if the given indexes of quality for information, standards, if the prevailing information in the domain is seriously thought of in the data processing process.

The data framework simplifies and automates the workflow of health care institutions. Integration of data mining in data frameworks, healthcare institutions reduce decision-making effort and provide new valuable medical knowledge. Predictive models offer the most effective data support and data to attention staff. the target of prognostic data processing in drugs is to make up a prognostic model that's clear, provides reliable predictions, and supports doctors to boost their identification and treatment designing processes.

An essential application of data mining is for biomedical signal processing communicated by internal guidelines and reactions to boost the condition, whenever there is a lack of knowledge about the connection between various subsystems, and when the standard analysis methods are ineffective, as it is often in the case of nonlinear associations.



FIGURE:2.Health Care in Data Mining

### III..EXISTING WORK:

In existing system there are so many complication in the medical care system and also having less facilities to use. In the system if the patient is having any disease he should directly go to the hospital and making waste of so much time to get the info that the what the disease is and the he used to stand in a queue to appointment and to get the treatment.

So many issues of getting late reply by the medical care and wasting of time and money in the existing, therefore we are implementing the smart health prediction of the patient that they can get the treatment immediately through the online mode only.

Maintenance of the system is incredibly tough; there's a prospect for obtaining inaccurate results. Users' friendliness is incredibly less; it consumes longer to process the activities.

### IV. PROPOSED WORK

In proposed work we are implementing some algorithms that to define the disease that the patient is having. Here in this work we are doing to create a database where the patient and doctor can directly will interact with each other when they have to check of need. But most of the case the patient giving his details he will get to know what is his disease and what are the precautions he should take and if the patient is not satisfied with the suggestion given by the system. Patient is advice with the specialist doctor for the particular disease and and booking a appointment for the patient with the specialist doctor for the treatment for the disease.

The system also features a doctor login, these uploaded pictures square measure currently sent to various doctors alongside patient contact details. The doctors might currently contact the patient for more methods.

#### 4.1. ARCHITECTURE OF SMART HEALTH PREDICTION:

In architecture here, the health care system will provide the database where the both patient and doctor can directly interact in this database where the patient can login by giving their data to the system same as doctor can treat them through his suggestion and advices. Patient can know this disease by giving number of symptoms to get this final result. Where doctor can see the results of the patient appointed to him through the data he will suggest them.

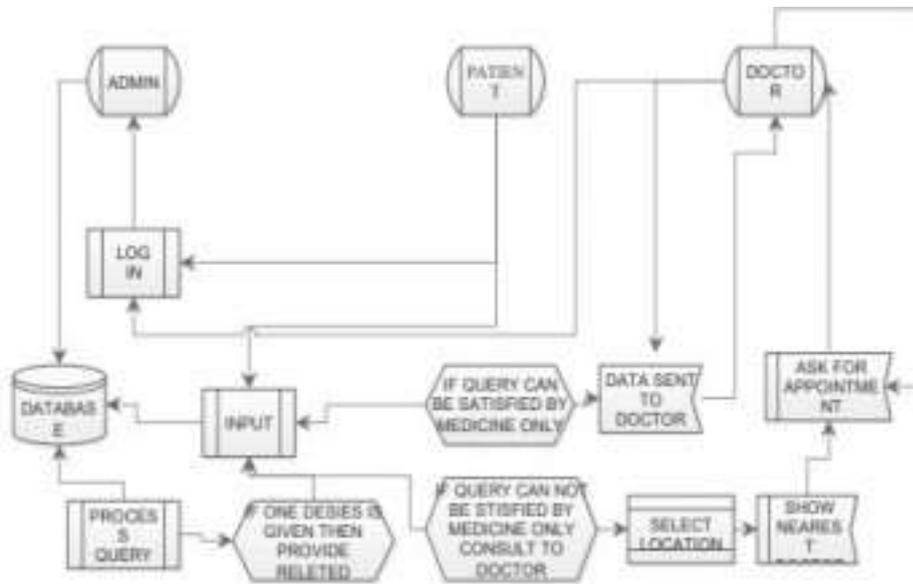


FIGURE:3 Architecture of smart health

**4.2. IMPLEMENTATION OF ALGORITHM**

**4.2.1. NAIVE BAYES ALGORITHM:**

The Naive theorem classifier is predicated on Bayes’ theorem with the independence assumptions between predictors. Bayes theorem provides some way of conniving the posterior likelihood,  $P(c|x)$ , from  $P(c)$ ,  $P(x)$ , and  $P(x|c)$ . Naive mathematicians assume that the result of the worth of a predictor ( $x$ ) on a given class ( $c$ ) is independent of the values of different predictors.

Here naive bayes are used for the process of data mining where the information is similar to the others and compared with the result of the previous one and gives the results.

**4.2.2. DECISION TREE:**

The general purpose of reading the victimization call Tree is to form a ready set to demonstrate which might be used to foresee category or estimation of target factors by taking in all standards obtained from before information.

Here decision tee it validates the data that is given by the patient and it decides what the patient is suffering from and it is also used to assign the particular doctor to the patient.

**4.3.EXPERIMENTAL RESULTS:**

A new client will enter personal details and register themselves. By registering they will get a client Id and secret key through which they can log in to the framework.

Here in the database where the patient gives all the symptoms that caused his disease.



FIGURE.4:Home page of smart health.

**4.3.1.MODULES OF PROPOSED WORK:**

This system is having 3 Modules:

- 1. Admin login
- 2.Patient login
- 3. Doctor’s login

**4.3.2.1. ADMIN LOGIN:**

Here in admin login the admin who is the authorized person has the right to access the full data with all the requirements and to change the format of the data.Who always check whether the system is going in the proper format.



FIGURE:5. Admin login page

**4.3.2.2. PATIENTS LOGIN:**

Here the patient has to login in the system to know their disease with their name and full details to get the access to log in the system.after the registration the patient is provided with the patient id and password of the patient id to login whenever the patient wants the need regarding the health issue.



FIGURE:6:Patient login page

**4.3.2.3. DOCTOR'S LOGIN:**

Here in the doctors log in the doctor is also have to register with the system that contains of doctors name,doctor specialist in.And he get access and the system who refer to the doctor.The doctor has to login in that system and give suggestions and advice to the patient if not they are advised to meet the doctor through the appointment for the treatment.



FIGURE:7:Doctors login page

#### 4.4.SMART HEALTH PREDICTION:

Here are the figures that they are showing the prediction of diseases of the patient in the smart health system



FIGURE.8: Giving the symptoms to the database



FIGURE.9: Giving more symptoms to the database



FIGURE.10: Analysing the symptoms and suggesting to the doctor to consult.

## V. CONCLUSION

Data mining can be helpful in the field of restorative space. Anyway protection, security and unfit to sign into the record are huge issues on the off chance that they are not tended to and settled appropriately. It portrays the proposition of a crossover information mining model to separate arrangement learning for the guide of different maladies in the clinical choice framework and presents a structure of the apparatus of different devices utilized for investigation.

The Health Prediction victimisation data processing website, historically viewed as a necessary burden in medical offices, healthcare facilities and eudaimonia centres, may be utterly automatic through the Associate in Nursing inefficient on-line software package program. the advantages of implementing reservations.

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