International Journal of Scientific Research in Engineering and Management (IJSREM)
Volume: 07 Issue: 05 | May - 2023 SJIF 2023: 8.176 ISSN: 2582-3930

Human Disease Prediction Using Machine Learning

Prof. Arunadevi khaple[1],Mayur Mane[2],Suyash Jadhav[3], Pratik Gawas[4], Rajesh Patil[5]

[1]Assistant Professor, Department of Computer Engineering, ZCOER
[2345]Final year Student,Computer Department, ZCOER

Abstract - One such execution of machine learning algorithms is in the field of Hospitality. Medical resources need to be advanced so that better decisions for sufferer therapy and therapy options can be made. Machine learning in Hospitality aids humans to process huge and complex medical datasets and then analyzing them into clinical insights. This then can further be used by doctors in providing medical care. Hence machine learning when executed in Hospitality can leads to increased sufferer satisfaction. in this paper, we try to implement functionalities of machine learning in Hospitality in a single system. instead of therapy, when a disease prediction is executed using certain machine learning predictive algorithms then Hospitality can be made smart. Some cases can occur when early therapy for a disease is not within reach. Hence disease prediction can be successfully executed. As widely said "Prevention is better than cure", prediction of diseases and the epidemic outbreaks would lead to early prevention of an occurrence of a disease. This paper mainly focuses on the development of a system or we could say an immediate medical provision that would incorporate the symptoms collected from multi-sensory devices and other medical data and store them into a Hospitality dataset. This dataset would then be analyzed using Naive Bayes machine learning algorithms to deliver results with maximum accuracy.

Key Words: *Big Data, Hospitality, Machine learning, Naive Bayes algorithm, etc.*

1. INTRODUCTION

Disease prediction using sufferer therapy history and wellness data by applying data mining and machine learning techniques is an ongoing struggle for the past decades. Many works have applied data mining techniques to persistent data or medical profiles for the prediction of specific diseases. These approaches tried to predict the re-occurrence of the disease. Also, some approaches try to do predictions on the control and progression of the disease. The recent success of deep learning in various areas of machine learning has driven expedient machine learning models that can learn rich, hierarchical representations of raw data with little preprocessing and produce more accurate results. With the development of big data technology, more awareness has been paid to disease prediction from the perspective of big data analysis; various pieces of research have been conducted by selecting the attributes automatically from a large number of data to improve the accuracy of risk classification rather than the previously selected attributes.The main focus is on using machine learning in Hospitality to supplement sufferer care for better results. Machine learning has assists to identify different diseases and therapy correctly. Predictive analysis with the help of logical multiple machine learning algorithms helps to predict the disease more correctly and helps treat sufferers.The Hospitality industry produces large amounts of Hospitality data daily that can be used to extract information for predicting diseases that can happen to a sufferer in the future while using the therapy history and wellness data. This hidden information in the Hospitality data will be later used for effective decision-making for the sufferer's wellness. Also, these areas need improvement by using the informative data in Hospitality.One such execution of machine learning algorithms is in the field of Hospitality. Medical resources need to be advanced so that better decisions for sufferer therapy and therapy options can be made. Machine learning in Hospitality aids humans to process huge and complex medical datasets and then analyzing them into clinical insights. This then can further be used by doctors in providing medical care. Hence machine learning when executed in Hospitality can leads to increased sufferer satisfaction. The Naive Bayes algorithm is used to predict diseases using sufferer therapy history and wellness data.

2. EXISTING SYSTEM

Prediction using risk models usually involves a machine learning and supervised learning algorithm which uses training data with labels for the training of the models. High-risk and Low-risk sufferer classification is done in group test sets. But these models are only beneficial in clinical situations and are widely studied. A system for sustainable wellness monitoring using smart clothing by Chen et.al. He thoroughly studied heterogeneous systems and was able to achieve the best results for cost reduction on the tree and simple path cases for heterogeneous systems.The information on the sufferer's statistics, test results, and disease history is recorded in EHR which enables the verification of potential data-centric solutions which reduce the cost of medical case studies. Bates et al. Suggest six applications of big data in the Hospitality field. Existing systems can predict the diseases but not the sub-type of diseases accurately. it goes wrong to predict the condition of people.

3. PROPOSED SYSTEM

In this paper, we have combined the structure and unstructured data in Hospitality fields that let us assess the risk of disease. The approach of the latent factor model for remodeling the missing data in medical records which are collected from the hospital. And by using statistical knowledge, we could determine the major diseases in a particular region and a particular community. To handle structured data, we ask hospital experts to know useful features

Naive Bayes

A group of supervised learning algorithms known as "Naive" Bayes are based on the Bayes theorem and make the "Naive" assumption that each pair of attributes is independent. Despite being straightforward, it frequently beats more complex classification techniques. The following relationship is established by Bayes' theorem if there are input variables x and output variables y.

p(y|x)=p(y) (y). p(x|y)/ p(x) (x)

The Gaussian Naive Bayes technique has been used in this project. The likelihood of the features is assumed to be Gaussian in the case of Gaussian Naive Bayes, meaning that all continuous values x associated with class y are distributed uniformly. The data is initially segmented by the class y for training data with a continuous attribute x. The mean and variance of x for each class are then calculated.

Flask – HTTP methods

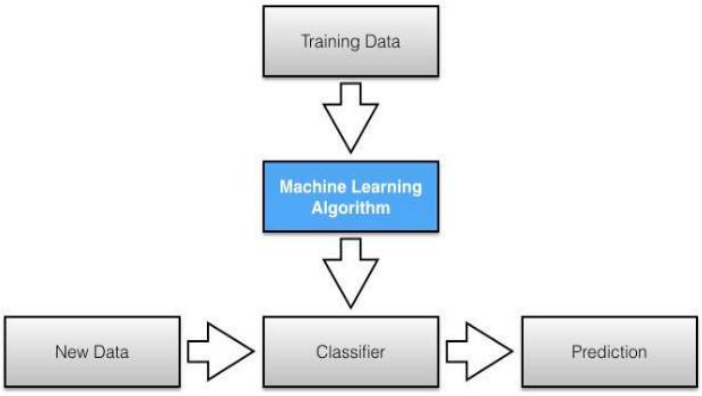
Http protocol is the foundation of data communication in world wide web. Different methods of data retrieval from specified URL are defined in this protocol.

The following table summarizes different http methods -

Sr.No.	Methods & Description
1	GET Sends data in unencrypted form to the server. Most common method.
2	HEAD Same as GET, but without response body
3	POST Used to send HTML form data to server. Data received by POST method is not cached by server.
4	PUT Replaces all current representations of the target resource with the uploaded content.
5	DELETE Removes all current representations of the target resource given by a URL

By default, the Flask route responds to the GET requests. However, this preference can be altered by providing methods argument to route() decorator. In order to demonstrate the use of POST method in URL routing, first let us create an HTML form and use the POST method to send form data to a URL.

4. SYSTEM ARCHITECTURE



5. IMPLEMENTATION

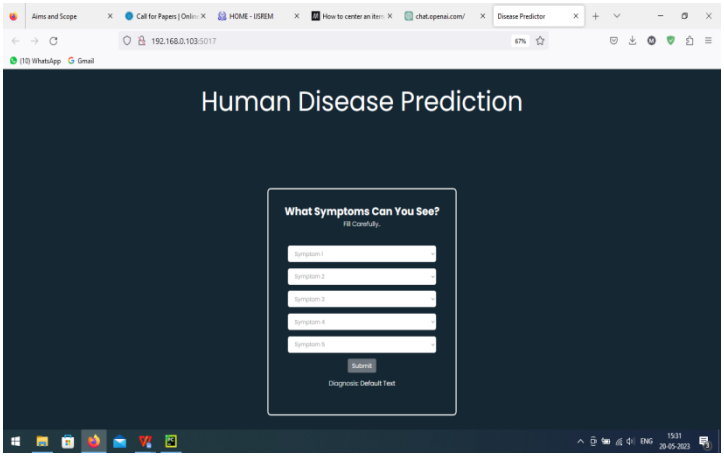


Fig. Implementation of code without result

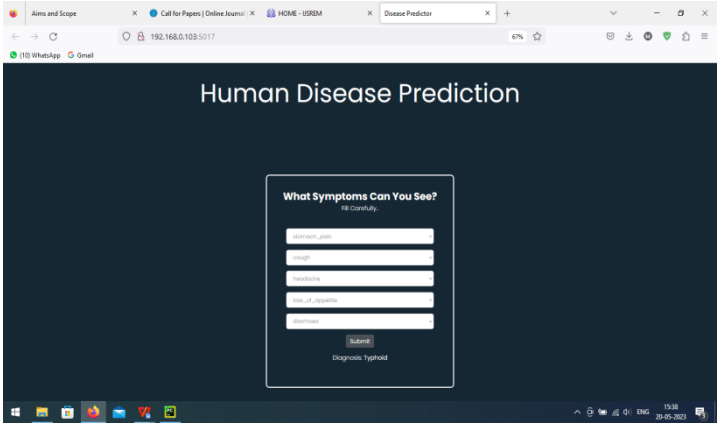


Fig. Implementation of code with result

6. CONCLUSIONS

With the offered system, higher accuracy can be achieved. We not only use structured data but also the text data of the sufferer based on the offered Naive Bayes algorithm. To find that out, we combine both data, and the accuracy rate can be reached up to 96%. None of the existing systems and work is focused on using both data types in the field of medical big data analytics. We propose a Naive Bayes algorithm for both structured and unstructured data. The model is obtained by combining both structured and unstructured features.

ACKNOWLEDGEMENT

I will never forget the support and kindness of my guide Prof. Arunadevi Khaple for their constant help, encouragement, and inspiration throughout the project work. Also, I would like to thank the Head of the Computer Engineering Department Dr. A. V. Mote madam for her valuable guidance, ability to motivate us, and even willingness to solve difficulties made it possible to make my project unique and made task easier. Our sincere thanks to Principal, Dr. Ajit Kate for providing me the necessary facility to carry out the work

REFERENCES

[1] S. M. Metev and V. P. Veiko, Laser Assisted Microtechnology, 2nd ed., R. M. Osgood, Jr., Ed. Berlin, Germany: Springer-Verlag, 1998.
[2] J. Breckling, Ed., The Analysis of Directional Time Series: Applications to Wind Speed and Direction, ser. Lecture Notes in Statistics. Berlin, Germany: Springer, 1989, vol. 61.
[3] S. Zhang, C. Zhu, J. K. O. Sin, and P. K. T. Mok, "A novel ultrathin elevated channel low-temperature poly-Si TFT," IEEE Electron Device Lett., vol. 20, pp. 569–571, Nov. 1999.
[4] M. Wegmuller, J. P. von der Weid, P. Oberson, and N. Gisin, "High resolution fiber distributed measurements with coherent OFDR," in Proc. ECOC'00, 2000, paper 11.3.4, p. 109.
[5] R. E. Sorace, V. S. Reinhardt, and S. A. Vaughn, "High-speed digital-to-RF converter," U.S. Patent 5 668 842, Sept. 16, 1997.
[6] (2002) The IEEE website. [Online]. Available: http://www.ieee.org/
[7] M. Shell. (2002) IEEEtran homepage on CTAN. [Online]. Available: http://www.ctan.org/tex-archive/macros/latex/ contrib. /supported/ IEEEtran/
[8] FLEXChip Signal Processor (MC68175/D), Motorola, 1996.
[9] "PDCA12-70 data sheet," Opto Speed SA, Mezzovico, Switzerland.
[10] A. Karnik, "Performance of TCP congestion control with rate feedback: TCP/ABR and rate adaptive TCP/IP," M. Eng. thesis, Indian Institute of Science, Bangalore, India, Jan. 1999.
[11] J. Padhye, V. Firoiu, and D. Towsley, "A stochastic model of TCP Reno congestion avoidance and control," Univ. of Massachusetts, Amherst, MA, CMPSCI Tech. Rep. 99-02, 1999.
[12] Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specification, IEEE Std. 802.11, 1997.