

Lifestyle Disease Prediction

*¹P. Sumalatha, ²M Akanksha, ²Maria Fatima

¹Assistant Professor, Department of CSE, Bhoj Reddy Engineering College for Women, Hyderabad, India

^{2,3} Student, Department of CSE, Bhoj Reddy Engineering College for Women, Hyderabad, India

ARTICLE INFO

Article History:

Accepted: 20 April 2023

Published: 07 May 2023

Publication Issue

Volume 10, Issue 3

May-June-2023

Page Number

39-42

ABSTRACT

Conditions that are associated with the way a person or group of people live are known as life conditions. Healthcare assiduity collects enormous complaint- related data that's unfortunately not booby-trapped to discover retired information that could be used for effective decision timber. This study aims to understand support vector machine and use it to prognosticate life conditions that an individual might be susceptible to. also, we propose and pretend an profitable machine literacy model as an volition to deoxyribonucleic acid testing that analyzes an existent's life to identify possible pitfalls that form the foundation of individual tests and complaint forestallment, which may arise due to unhealthy diets and inordinate energy input, physical dormancy, etc. The simulated model will prove to be an intelligent low- cost volition to descry possible inheritable diseases caused by unhealthy cultures.

Keywords : Deoxyribonucleic acid testing, healthcare industries, lifestyle diseases, support vector machine

I. INTRODUCTION

A report prepared by the World Health Organization and World Economic Forum says that India will dodge an accumulated loss of \$236.6 billion by 2015 because of morbid cultures as well as amiss diet (1). life and diet are the two main factors that are considered to impact receptiveness to colorful conditions. conditions are substantially caused by a combination of metamorphosis, life selections, and surroundings. In addition, relating health pitfalls in an existent's family is one of the most pivotal effects an existent can do to help his/ her guru understand and diagnose hereditarily linked runs like cancer, diabetes, and

internal illness. conditions that are associated with the way a person or group of people live are known as life conditions. They include atherosclerosis; heart complaint and stroke; rotundity and type II diabetes; and smoking and alcohol- related conditions. This study aims to understand Decision tree(DT) and use it to prognosticate life conditions that an individual might be susceptible to. The need for public mindfulness isn't stressed enough, but life conditions are easy to help. Simply modifying an existent's life to reduce and exclude pitfalls can be intriguing. Deoxyribonucleic acid(DNA) and inheritable testing are creating a new breadth of individualized drug. still, on an average, DNA testing may dodge ₹ 10,000 to

20,000(2), which is precious. Though there are numerous retreating conditions and tests, they're aimlessly tested because they're expensive, and factual tests haven't been developed yet. Our cultures are imperative in adding or dwindling pitfalls of colorful conditions. According to some exploration conducted in the discipline of epigenetics determines that an existent's life selections can modify his/ her well- being at inheritable position. This study discusses about a model that can prognosticate the chances of an individual carrying a life complaint. life conditions depend on factors like heaviness, drill, and food loves and therefore have a strong association with the abovementioned factors. In our simulated model, an actor will input his/ her details like fattiness, sleeping habits and will discover the liability of suffering from life conditions.

II. RELATED WORK

1) TITLE: Disease prediction by using machine learning.

Authors: Sayali Ambhekar and Dr.Rashmi Phalinkar
Year: 2018

Disease Prediction using Machine literacy is the system that's used to prognosticate the conditions from the symptoms which are given by the cases or any stoner. The system processes the symptoms handed by the stoner as input and gives the affair as the probability of the complaint. Naïve Bayes classifier is used in the vaticination of the complaint which is a supervised machine learning algorithm. The probability of the complaint is calculated by the Naïve Bayes algorithm. With an increase in biomedical and healthcare data, accurate analysis of medical data benefits early complaint discovery and case care. By using direct retrogression and decision tree we're prognosticating conditions like Diabetes, Malaria, Jaundice, Dengue, and Tuberculosis.

2) TITLE: Graph theoretical metrics and machine learning for diagnosis of parkinson's disease..

Authors: Kazeminejad and Soltanian-Zadeh

Year: 2017

In this study, we shoveled the felicity of graph theoretical analysis for automatic opinion of Parkinson's complaint. Resting state fMRI data from 18 healthy controls and 19 cases were used in the study. Next, a brain network graph was constructed using the regions as bumps and the Pearson correlation between their average time series as edge weights. A chance of edges with the topmost magnitude were kept and the rest were neglected from the graph using a thresholding system ranging from 10 to 30 with 2 supplements. Global graph theoretical criteria for integration(Characteristic path length and effectiveness), sequestration(Clustering Measure and Transitivity) and small- worldness were pulled for each subject and their between group differences were subdued to statistical analysis. Original criteria, including integration, sequestration, centrality(betweenness, zscore, and participation measure) and nodal degree, were also pulled for each subject and used as features to train a support vector machine classifier.

3) Title: Study of machine learning algorithms for special disease prediction.

Authors: kanchan and kishor
Year: 2016

The worldwide study on causes of death due to heart complaint/ pattern has been observed that it's the major cause of death. However, 23, If recent trends are allowed to continue.6 million people will die from heart complaint in coming 2030. The healthcare assiduity collects large quantities of heart complaint data which unfortunately aren't " booby-trapped " to discover retired information for effective decision timber. In this paper, study of PCA has been done which finds the minimal number of attributes needed to enhance the perfection of colorful supervised machine learning algorithms. The purpose of this exploration is to study supervised machine learning algorithms to prognosticate heart complaint.

4) Title: Prediction of diabetes based on personal lifestyle indicators

Authors: Anand and shakti

Year: 2015

Diabetes Mellitus or Diabetes has been portrayed as worse than Cancer and HIV(Human Immunodeficiency Virus).It develops when there are high blood sugar situations over a prolonged period. recently, it has been quoted as a trouble factor for developing Alzheimer, and a leading cause for blindness & order failure. Prevention of the complaint is a hot content for disquisition in the healthcare community. multitudinous ways have been discovered to find the causes of diabetes and cure it. This disquisition paper is a discussion on establishing a relationship between diabetes trouble likely to be developed from a person's quotidian life conditioning analogous as his/ her eating habits, sleeping habits, physical exertion along with other pointers suchlike BMI(Body Mass Index), waist circumference etc.

III. PROPOSED SYSTEM

In my paper, I have consolidated the structure and unstructured information in social insurance handles that let us survey the danger of disease. The methodology of the dormant factor model for reproducing the missing information in clinical records which are gathered from the emergency clinic. What's more, by utilizing measurable information, we could decide the major interminable sicknesses in a specific area and specifically network. To handle organized information, we counsel emergency clinic specialists to know valuable highlights.

On account of unstructured content information, we select the highlights naturally with the assistance of k-mean calculation. I propose a k-mean calculation for both organized and unstructured information.

3.1 The k-means calculation

The k-means calculation is a basic iterative technique to segment a given dataset into a predetermined number of groups, k. This calculation has been found by a few analysts across various controls. The

calculation works on a set of d-dimensional vectors, $D = \{x_i \mid i = 1 \dots N\}$, where $x_i \in R^d$ signifies the i th information point. The calculation is instated by picking k focuses in R^d as the underlying k bunch. Procedures for choosing these underlying seeds incorporate examining aimlessly from the dataset, setting them as the arrangement of bunching a little subset of the information or irritating the worldwide mean of the information k times.

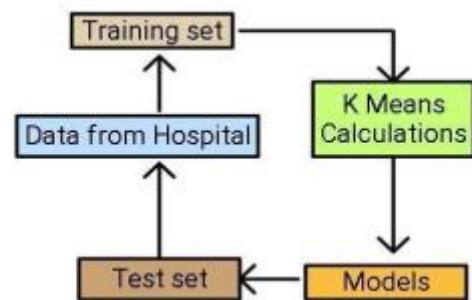


Fig – 1 : System Architecture

Fig.1 shows the working procedure of how training set and test set are inter-related to each other. Data collected from hospitals are moved to training set which after performing training operation applies k mean calculation and moved it to models, the model in turn send it to test set which goes on back to hospital.

IV. RESULTS

We implemented actual health care system according our research. This project is managed using git and GitHub. That's why we used the GitHub organization for implementing this project.

- GitHub Project organization link is given for coding <https://github.com/Full-Stack-Warriors>
- Deployment link Client Side (Preview of project) <https://ehealthcareforeveryone.netlify.app>
- Deployment link Admin Side (Preview of Project) <https://ehealthcarefordoctor.netlify.app>

V. CONCLUSION

With the proposed framework, higher exactness can be accomplished. I utilize organized information, yet in addition the content information of the persistent dependent on the proposed k-mean calculation. To discover that out, I consolidate the two information, and the exactness rate can be reached up to 95%. None of the current framework and work is concentrated on utilizing both the information types in the field of clinical enormous information examination. I propose a K-Mean calculation for both organized and unstructured information. The sickness chance model is acquired by joining both organized also, unstructured highlights.

VI. REFERENCES

- [1]. D. W. Bates, S. Saria, L. Ohno-Machado, A. Shah, and G. Escobar, "Big data in health care: using analytics to identify and manage high-risk and high-cost patients," *Health Affairs*, vol. 33, no. 7, pp. 1123–1131, 2014.
- [2]. K.R.Lakshmi, Y.Nagesh and M.Veera Krishna, "Performance comparison of three data mining techniques for predicting kidney disease survivability", *International Journal of Advances in Engineering & Technology*, Mar. 2014.
- [3]. Mr. Chala Beyene, Prof. Pooja Kamat, "Survey on Prediction and Analysis the Occurrence of Heart Disease Using Data Mining Techniques", *International Journal of Pure and Applied Mathematics*, 2018.
- [4]. Boshra Brahmi, Mirsaeid Hosseini Shirvani, "Prediction and Diagnosis of Heart Disease by Data Mining Techniques", *Journals of Multidisciplinary Engineering Science and Technology*, vol.2,pp.164-168,2 February 2015,.
- [5]. A. Singh, G. Nadkarni, O. Gottesman, S. B. Ellis, E. P. Bottinger, and J. V. Guttag, "Incorporating temporal her data in predictive models for risk stratification of renal function deterioration," *Journal of biomedical informatics*, vol. 53, pp. 220–228, 2015.
- [6]. S. Patel and H. Patel, "Survey of data mining techniques used in healthcare domain," *Int. J. of Inform. Sci. and Tech.*, Vol. 6, pp. 53-60, March 2016.
- [7]. M. Patil, V. B. Lobo, P. Puranik, A. Pawaskar, A. Pai, and R. Mishra, "A proposed model for lifestyle disease prediction using support vector machine," in *2018 9th International Conference on Computing, Com-munication and Networking Technologies (ICCCNT)*, pp. 1–6, 2018.
- [8]. F. Q. Yuan, "Critical issues of applying machine learning to condition monitoring for failure diagnosis," in *2016 IEEE International Conference on Industrial Engineering and Engineering Management (IEEM)*, 2016, pp. 1903–1907.

Cite this article as :

P. Sumalatha, M Akanksha, Maria Fatima, "Lifestyle Disease Prediction", *International Journal of Scientific Research in Science, Engineering and Technology (IJSRSET)*, Online ISSN : 2394-4099, Print ISSN : 2395-1990, Volume 10 Issue 3, pp. 39-42, May-June 2023.
Journal URL : <https://ijsrset.com/IJSRSET2310311>