

Heart Disease Prediction Using Machine Learning

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Abstract: *Healthcare field features has immense quantity of information, for process those information bound techniques are used. Data processing is one in every of the techniques typically used. Cardiovascular disease is the major reason behind death world-wide. This technique predicts the arising prospects of Heart-Disease. However, it remains tough for clinicians to predict heart disease because it could be a complicated and expensive task. Hence, we tend to projected a medical web for predicting cardiovascular disease to assist clinicians with diagnostic and build higher selections. The end result of this technique provides whether or not the user features a heart disease or doesn't have a cardiovascular disease. The datasets are classified in terms of medical parameters. The aim of this project is to predict heart disease using data processing techniques and machine learning algorithms. This project implements five classification models scikit-learn: Logistic Regression, Support Vector Classifier, k-Nearest Neighbours, Neural Network and Random Forest Model to analyse their performance on heart information sets obtained from the UCI information repository and from Kaggle.com. The framework that may be accustomed build the project is Django.*

Keywords: Heart sickness, Cardiovascular disease, cardiac arrest, clinical Random Forest, machine learning.

REFERENCES

- [1]. URL:[http://who.int/news-room/fact-sheets/detail/cardiovascular-diseases-\(cvds\)](http://who.int/news-room/fact-sheets/detail/cardiovascular-diseases-(cvds))
- [2]. URL: <http://nhlbi.nih.gov>. National heart, lung, and blood institute.
- [3]. N. Mishra and S. Silakari “Predictive Analytics: A Survey, Trends, Application, Opportunities and Challenges,” International Journal of computer science and information technologies, vol 3(3), pp. 4434-4438, 2012.
- [4]. H. Alharti. “Healthcare predictive analytics: An overview with a focus on Saudi Arabia,” Journal of Infection and Public Health, vol 11(6), pp. 749-756, 2018.
- [5]. R. Detran Heart Disease Dataset. “Retrieved from: <http://archive.ics.edu/ml/machine-learning-databases/heartdisease/cleveland.data>” 1988.
- [6]. K. H., Miao, J. H. Miao & G. Miao. “Diagnosing Coronary Heart Disease Using Ensemble Machine Learning,” International Journal of Advanced Computer Science and Applications, vol 7(10), 2016.
- [7]. L. M. Hung, D. T. Toan, & V. T. Lang. “Automatic Heart Disease Prediction Using Feature Selection and Data Mining Technique,”. Journal of Computer Science and Cybernetics, vol 34(1), pp. 33-47, 2018.
- [8]. R. El-Bialy, M. A. Salamay, O. H. Karam, & M.E. Khalifa. “Feature Analysis of Coronary Artery Heart Disease Data Sets”. International Conference on Communication, Management and Information Technology. Procedia Computer Science, vol 65, pp. 459-468, 2015.
- [9]. M. Abdar, R. Sharareh, N. Kalhori, T. Sutikno, I.M. I. Subroto & G. Arji. “Comparing Performance of Data Mining Algorithms in Prediction Heart Diseases,” International Journal of Electrical and Computer Engineering, vol 5(6), pp. 1569-1576, 2015.
- [10]. A. K. Paul, P. C. Shill, R. I. Rabin, & M. A. H. Akhand. “Genetic algorithm based fuzzy decision support system for the diagnosis of heart disease,”. IEEE 5th International Conference on Informatics, Electronics and Vision. 2016.
- [11]. Purushottam, K. Saxena, & R. Sharma (2016). Efficient Heart Disease Prediction System. Procedia Computer Science, 85, 962-969.
- [12]. Z. Arabasadi, R. Alizadehsani, M. Roshanzamir, H. Moosaei, & A. A. Yarifard. “Computer aided decision making for heart disease detection using hybrid neural network-Genetic algorithm,” Computer Methods and Programs in Biomedicine, vol 41, pp. 19-26, 2017.

- [13]. Montu Saw, Tarun Saxena, Sanjana Kaithwas, Rahul Yadav, Nidhi Lal, "Estimation of Prediction for Getting Heart Disease Using Logistic Regression Model of Machine Learning", 2020 International Conference on Computer Communication and Informatics (ICCCI -2020), Pages:6, Jan. 22-24, 2020, Coimbatore, INDIA.
- [14]. Anjan Nikhil Repaka, Sai Deepak Ravikanti, Ramya G Franklin, "Design And Implementing Heart Disease Prediction Using NaivesBayesian", Proceedings of the Third International Conference on Trends in Electronics and Informatics (ICOEI 2019), Pages:06, 2019.
- [15]. Baban.U. Rindhe, Nikita Ahire, Rupali Patil, Shweta Gagare, Manisha Darade, "Heart Disease Prediction Using Machine Learning", International Journal of Advanced Research in Science, Communication and Technology (IJARSCT), Pages:08, May 2021.
- [16]. NinadMarathe ,SushoptiGawade , Adarsh Kanekar, "Prediction of Heart Disease and Diabetes Using Naive Bayes Algorithm", International Journal of Scientific Research in Computer Science, Engineering and Information Technology IJSRCSEIT, May-June-2021.
- [17]. DhaiddineSalhi, Abdelkamel Tari, and M-Tahar Kechadi, "Using Machine Learning for Heart Disease Prediction", February 2021
- [18]. Abderrahmane Ed-daoudy, Khalil Maalmi, "Real-time machine learning for early detection of heart disease using big data approach", 2019, IEEE
- [19]. M.Snehith Raja, M.Anurag, Ch.Prachetan Reddy, NageswaraRaoSirisala, "MACHINE LEARNING BASED HEART DISEASE PREDICTION SYSTEM", International Conference on Computer Communication and Informatics (ICCCI 2021), Jan 27-29, 2021
- [20]. Shaik Farzana, DuggineniVeeraiah, "Dynamic Heart Disease Prediction using Multi-Machine Learning Techniques", 2020 IEEE
- [21]. Halima EL HAMD AOUI, Saïd BOUJRAF, Nour El Houda CHAOUI, Mustapha MAAROUFI "A Clinical support system for Prediction of Heart Disease using Machine Learning Techniques", 5th International Conference on Advanced Technologies For Signal and Image Processing, 2020
- [22]. Md. Touhidul Islam, Sanjida Reza Raza, Md. Golam Kibria "Early Prediction of Heart Disease Using PCA and Hybrid Genetic Algorithm with k-Means" International Conference on Computer and Information Technology (ICCIT), 19-21 December, 2020