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Project Based Learning-II

Title: Heart Disease Prediction System

Abstract

Heart disease or cardiovascular diseases are one of the most life-threatening diseases in the modern world. Early prediction of heart related diseases is not easy as it is a kind of disease that is either inherited from ancestors or builds up over a long time caused by unhealthy eating habits, lack of exercise etc. Therefore, it has been a very critical challenge for researchers in the area of medical data analysis to find hidden patterns in the various medical heart related parameters. It is also difficult for a doctor to accurately predict this beforehand. Machine learning is that sub-domain of data science that helps in the prediction and recommendation of several different entities with the help of past data and has numerous machine learning algorithms that are responsible for finding hidden patterns in the data. Hence, machine learning will play a major role in the future of healthcare industries as we know hospitals are collecting huge amount of patient data including numerous health parameters, symptoms and is presently not utilized efficiently, but this can change in the future where this data could be used to find these hidden patterns and help in early prediction of chronic diseases, prevent formation of fatal diseases etc. There is a need for an automated system for medical diagnosis.

Our desktop application aims for the same goal to predict the occurrence of heart related disease based on the various datasets acquired from Kaggle. We expect to find various hidden relationships and patterns in

the data by applying machine learning algorithms on this data, to find presence of heart related disease. Clearly accurate diagnosis requires huge amount of complex data which is too big to analyse using traditional techniques. Our application will have a good interface where both doctor and patient can interact with the system, and input all the health parameters of the patient and system in the backend using Random Forest algorithm will predict whether the patient has heart related issue or not.