

Heart Attack Prediction Using Several Machine Learning Methods

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Abstract : Heart rate (HR) is a predictor of cardiovascular, cerebrovascular, and all-cause mortality in the general population, as well as in patients with cardio and cerebrovascular diseases. Machine learning (ML) significantly improves the accuracy of cardiovascular risk prediction, increasing the number of patients identified who could benefit from preventive treatment while avoiding unnecessary treatment of others. This research examines relationship between the individual's various heart health inputs like age, sex, cp, trestbps, thalach, oldpeaketc, and the likelihood of developing heart disease. Machine learning techniques like logistic regression and decision tree, and Python are used. The results of testing and evaluating the model using the Heart Failure Prediction Dataset show the chance of a person having a heart disease with variable accuracy. Logistic regression has yielded an accuracy of 80.48% without data handling. With data handling (normalization, standardscaler), the logistic regression resulted in improved accuracy of 87.80%, decision tree 100%, random forest 100%, and SVM 100%.

Keywords : heart rate, machine learning, SVM, decision tree, logistic regression, random forest

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