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Predicting the Stages of Chronic Kidney Disease Using Machine Learning Approach

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Abstract

A condition due to which the kidneys cannot perform its regular function of filtering blood refer to Chronic kidney disease; nowadays people belongingto different ages are suffering and coherently increasedthe deathrate of related patients,premature of diagnosis. Kidney Diseasehas become a majorproblemin the general publicall over the world, as it damages the kidney. Kidney failureis measured by GFR (Glomerular Filtration Rate). In this research work, various supervised machine learningalgorithms are used to predict and classify Chronic Kidney Diseaseand non-Chronic Kidney Disease. The dataused forthis work has been collected fromthe machine learningrepositoryand on these datasetSVM, Navie Bayes, Decision Trees and K-NN models hasbeen applied. The system has shown better resultsin classifying Chronic Kidney Diseaseand non-Chronic Kidney Disease.The results of classifiersare compared. The study concludes that among all the classifiers, the SVM and Decision Tree have performed better thanother classifiers. Stage detectionis also done by using different attributes of the dataset and proposeda system to detectand identify the different gradesof chronickidney Disease.

Keywords:

Chronic Kidney Disease, Classification, Machine Learning, SVM, Decision Tree, and Prediction

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