EARLY DETECTION OF CHRONIC KIDNEY DISEASE - APPLIED DATA SCIENCE

TEAM ID: PNT2022TMID04381

Literature Survey

S.No	PAPER	AUTHOR YEAR	METHOD AND ALGORITHM
1	Diagnosis of Chronic Kidney Disease Using Effective Classification Algorithms and Recursive Feature Elimination Techniques	Ebrahime Mohammed Senan, et al.[2021]	To analyze the CKD dataset, a number of experiments were carried out utilizing machine learning methods such as SVM, KNN, decision tree, and random forest. The mean approach was utilized in preprocessing to compute missing numerical values, while the mode method was used to compute missing nominal values. The RFE method was used to choose the aspects of relevance related with the features of importance for CKD diagnosis. These characteristics were put into classifiers for illness detection. To diagnose CKD, four classifiers were used in this study: SVM, KNN, decision tree, and random forest. All classifiers performed well in classifying a dataset as CKD or normal kidney.

2	Chronic Kidney Disease Prediction using Machine Learning Models	S.Revathy, [2019]	This research offered a prediction method for predicting CKD at an early stage. The dataset contains input parameters gathered from CKD patients, and the models are trained and verified for the specified input parameters. To perform CKD diagnosis, decision tree, random forest, and support vector machine learning models are built. The accuracy of prediction is used to evaluate the performance of the models. The study's findings revealed that the Random Forest Classifier model outperforms Decision trees and Support Vector Machines in predicting CKD. The comparison may also be done based on the execution time, feature set selection, and the improvisation of this research.
3	Prediction of Chronic Kidney Disease - A Machine Learning Perspective	Pankaj Chittora,et al. [2021]	The IBM SPSS tool was used to create the model. For training the model, machine learning classifiers such as artificial neural network (ANN), C5.0, logistic regression, linear support vector machine (LSVM), K- closest neighbors (KNN), and random tree were employed. Each classifier's validation and performance metrics were constructed separately. This study's technique consists of five stages: I dataset preparation, (ii) feature selection, (iii) classifier application, (iv) SMOTE, and (v) classifier performance analysis. A deep neural network was used in conjunction with machine learning models to compare the results of machine learning models with deep neural networks. For this objective, an artificial neural network classifier was deployed. In this study, the significance of two models was determined using statistical testing, namely McNemar's test.

4	Early Diagnosis of Chronic Kidney Disease Using Machine Learning Algorithms with Least Parameters by RFE and Feature Importance Techniques.	K.Kavitha, et al.[2021]	The goal of this research was to improve diagnostic accuracy by analyzing the optimum feature selection and developing a prediction model using machine learning techniques. RFE was used to create parameter rankings, and statistical values were used to determine the relevance of features using linear, logistic, decision tree, CART, and random forest classifier approaches. CKD was calculated using several classifier techniques such as SVM-Linear, SVM-Poly, Gaussian NB, and K-Neighbors in the suggested model. Using these machine learning models, the SVM-Linear classifier performed better, with a diagnostic accuracy of 0.925.