EARLY DETECTION OF CHRONIC KIDNEY DISEASE USING MACHINE LEARNING

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LITERATURE SURVEY

S.NO	TITLE	INFERENCE
1.	Antony, L., Azam, S., Ignatious, E., Quadir, R., Beeravolu, A.R., Jonkman, M. and De Boer, F., 2021. A comprehensive unsupervised framework for chronic kidney disease prediction. *IEEE Access*, *9*, pp.126481-126501.	Implemented five unsupervised algorithms, K-Means Clustering, DB-Scan, I-Forest, and Autoencoder. And integrating them with various feature selection methods. Integrating feature reduction methods with K-Means Clustering algorithm has achieved an overall accuracy of 90% in classifying the clinical data of CKD and Non-CKD.
2.	Qin, J., Chen, L., Liu, Y., Liu, C., Feng, C. and Chen, B., 2019. A machine learning methodology for diagnosing chronic kidney disease. *IEEE Access*, *8*, pp.20991-21002.	Six machine learning algorithms (logistic regression, random forest, support vector machine, k-nearest neighbor, naive Bayes classifier and feed forward neural network) were used to establish models. Among these machine learning models, random forest achieved the best performance with 99.75% diagnosis accuracy. An integrated model that combined logistic regression and random forest by using perceptron, achieved an average accuracy of 99.83% after ten times of simulation.

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3.	Chen, G., Ding, C., Li, Y., Hu, X., Li, X., Ren, L., Ding, X., Tian, P. and Xue, W., 2020. Prediction of chronic kidney disease using adaptive hybridized deep convolutional neural network on the internet of medical things platform. *IEEE Access*, *8*, pp.100497-100508.	The Adaptive Hybridized Deep Convolutional Neural Network (AHDCNN) is used for the prediction and diagnosis of Chronic Kidney Disease. A deep learning system is used for identifying the distinctive subtypes of lesions from CT images in renal cancer. Different features associated with kidney disease are determined from the noise-free data and fed in the classifier implemented to identify variations in kidney patterns.
4.	Bhaskar, N. and Manikandan, S., 2019. A deep-learning-based system for automated sensing of chronic kidney disease. *IEEE Sensors Letters*, *3*(10), pp.1-4.	The raw sensor signal is directly given to the deep learning algorithm for predictive decision making. The proposed sensing approach is tested and validated by the physician. The statistical analysis to determine how well the proposed sensing method values and traditional urea estimation values are correlated. A positive correlation is observed is observed between the two values with r and R^2 values of 0.9898 and 0.9799 respectively. The proposed sensing module can be successfully used with the capabilities of deep learning techniques for detecting CKD more effectively than traditional methods.
5.	Nishanth, A. and Thiruvaran, T., 2017. Identifying important attributes for early detection of chronic kidney disease. *IEEE reviews in biomedical engineering*, *11*, pp.208-216.	If the important attributes that could help to detect CKD is known then even people who are not diagnosed CKD also may get a clue of the condition of their kidney from the medical test taken for some other purposes. A weighing vector based on CSP filter and LDA analysis and then classification analysis using LDA and KNN classifiers were used to identify the dominant attributes. These analyses suggest that when hypertension and diabetes mellitus are not available, blood glucose random and blood pressure can be used.