

# EARLY DETECTION OF CHRONIC KIDNEY DISEASE USING MACHINE LEARNING

## LITERATURE SURVEY

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## **INTRODUCTION:-**

There are a large number of people in the world who gets affected to kidney related diseases. Our country India ranks first in terms of people getting affected by kidney related disease. Though population plays a major factor in it, the fact that China which has higher population than us is actually ranking in a much lower place than us in the term of people getting affected by kidney related disease. Generally, the kidney diseases are caused by the abnormal physiological functionalities of human kidney. Therefore, the characteristic symptoms are generated based on the differentiation between normal physiological functionalities and abnormal physiological functionalities of the kidney. The difference in the functionality of kidney is mainly due to the lifestyle and the food preference people have in their life. So the reason we were doing this project is to find the symptoms of kidney related diseases for the users and alert them before the disease becomes fatal for the patient. The main motive of this project is to find symptom and its cure as soon as possible.

S.No	PAPER TITLE	ALGORITHM / TECHNIQUE USED	DESCRIPTION
1.	Performance Analysis of Machine Learning Classifier for Predicting Chronic Kidney Disease	Logistic Regression and Classification, Decision tree classifier, Random Forest classifier	This proposed system detects chronic kidney disease using machine learning; They have attained an accuracy of 100% in decision tree classifier, 95.12% in random forest and 98.82% in logistic regression.
2.	Statistical and Data Mining Aspects on Kidney Stones: A Systematic Review and Meta-analysis	Random Forest, Support vector machine, Logistic and NN	They predicted good accuracy with Classification tree and Random Forest (93%) followed by Support Vector Machines (SVM) (91.98%). Logistic and NN has also shown good accuracy results with zero relative absolute error and 100% correctly classified results.
3.	Prediction of chronic kidney disease (CKD) using Data Science	Support Vector Machine, Random Forest, XGBoost, Logistic Regression, Neural networks	This proposed research work is primarily focused on finding the best classification algorithm which can be used for the diagnosis of CKD based on the classification report.
4.	Chronic Kidney Disease Prediction using Machine Learning	Ant Colony Optimization technique and Support Vector Machine (SVM) classifier	This study proposes the use of machine learning techniques for CKD such as Ant Colony Optimization (ACO) technique and Support Vector Machine (SVM) classifier. Final output predicts whether the person is having CKD or not by using minimum number of features.

5.	A Neural Network based Model for Predicting Chronic Kidney Diseases	Artificial Neural Network algorithms	The 14 different properties are analysed and linked to chronic kidney disorder victims and foretold accuracy for a machine learning algorithm named Artificial Neural Network. After analysing the outcomes, it is recognized that the algorithm gives correctness of 96
6.	A Machine Learning Methodology for Diagnosing Chronic Kidney Disease	Logistic regression, Random Forest, Support vector machine, k-nearest neighbour, Naive Bayes classifier, and Feed Forward Neural Network	A machine learning approach for diagnosing CKD was proposed in this study. An ensemble model that combines logistic regression and random forest with the aid of perceptron was utilized and it was able to attain an average accuracy of 99.83% after ten times of simulation.