**LITERATURE SURVEY**

**EARLY DETECTION OF CHRONIC KIDNEY DISEASE USING MACHINE LEARNING**

**INTRODUCTION:**

Chronic Kidney Disease (CKD) is considered as an important threat for the society with respect to the health in the present era. Chronic kidney disease can be detected with regular laboratory tests, and some treatments are present which can prevent development, slow disease progression, reduce complications of decreased Glomerular Filtration Rate (GFR) and risk of cardiovascular disease, and improve survival and quality of life. CKD can be caused due to lack of water consumption, smoking, improper diet, loss of sleep and many other factors. This disease affected 753 million people globally in 2016 in which 417 million are females and 336 million are males. Majority of the time the disease is detected in its final stage and which sometimes leads to kidney failure.

**ABSTRACT:**

Chronic Kidney Disease also recognized as Chronic Renal Disease, is an uncharacteristic functioning of kidney or a failure of renal function expanding over a period of months or years. Habitually, chronic kidney disease is detected during the screening of people who are known to be in threat by kidney problems, such as those with high blood pressure or diabetes and those with a blood relative Chronic Kidney Disease(CKD) patients. So the early prediction is necessary in combating the disease and to provide good treatment. 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.

**CONCLUSION:**

This paper deals with the prediction of CKD in people. A wrapper method used here for feature selection is ACO. ACO is a meta-heuristic optimization algorithm. Out of the 24 attributes present 12 best attributes are taken for prediction. Prediction is done using the machine learning technique, SVM. In this classification problem SVM classifies the output into two class with CKD and without CKD. The main objective of this study was to predict patients with CKD using less number attributes while maintaining a higher accuracy. Here we obtain an accuracy of about 96 percentage.