**EARLY PREDICTION OF CHRONIC KIDNEY DISEASES USING**

**MACHINE LEARNING**

**PROBLEM STATEMENT**

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.

The existing system of diagnosis is based on the examination of urine with the help of serum creatinine level. Many medical methods are used for this purpose such as screening, ultrasound method. In screening, the patients with hypertension, history of cardiovascular disease, disease in the past, and the patients who have relatives who had kidney disease are screened. This technique includes the calculation of the estimated GFR from the serum creatinine level, and measurement of urine albumin-to-creatinine ratio (ACR) in a first morning urine specimen. This paper focuses on machine learning techniques like ACO and SVM by minimizing the features and selecting best features to improve the accuracy of prediction.