**SYSTEM ANALYSIS**

**EXISTING SYSTEM:**

* E. Perumal et al. has used the decision tree algorithm to predict the occurrence of heart disease, Naïve Bayes algorithm, and Probabilistic Neural Network (PNN) algorithm. It provides better results compared to other cardiovascular prediction algorithms.
* R. Shinde et al. introduced the Multilayered Perceptron (MLP) separator was used to predict HBV-induced hepatic cirrhosis, and the findings indicate that the MLP separator provides excellent predictive results for liver disease, particularly in HBV-related patients with liver failure.

**DISADVANTAGES OF EXISTING SYSTEM:**

* The existing system using Decision Tree classifiers are unstable, meaning that a small change in the data can lead to a large change in the structure of the optimal decision tree.
* The existing systems are often relatively inaccurate. Many other predictors perform better with similar data. This can be remedied by replacing a single decision tree with a random forest of decision trees, but a random forest is not as easy to interpret as a single decision tree.
* Existing system calculations can get very complex, particularly if many values are uncertain and/or if many outcomes are linked.
* Existing system has the lack of ability to be spatially invariant to the input data and also it required Lots of training data.

**PROPOSED SYSTEM:**

* Chronic kidney disease (CKD) is one of the main reasons behind death all throughout the world these days. The term “chronic kidney disease” signifies enduring damage to the kidneys that can deteriorate over the long run. On the off chance that the damage is very terrible, then kidney may quit working. This is called End stage renal failure. The prediction of CKD is perhaps the most significant and challenging issues in medical services examination. To acquire the hidden data from the given dataset, data mining is utilized to settle on the decisions. This paper aims to assist in the prediction of chronic kidney disease (CKD) by utilizing the support vector machine (SVM) classifier in medical domain.
* In this paper, we have explored ML techniques and done experimental analysis to classify stages of CKD. In this proposed system, we have built ML model using SVM to classify weather a patient has CKD or not. Before applying classification algorithm, we have eliminated few features using feature selection method.

**ADVANTAGES OF PROPOSED SYSTEM:**

* It is noted that the existing studies have obtained the lowest accuracy; while the proposed system has obtained accuracy of 94% with the proposed SVM. Finally, it is observed that the proposed has optimal results compared with existing systems.
* The proposed system results show that SVM is considered as the best classifier when contrasted with other classifier algorithms.
* The parameters of SVM were tuned to perform the best classification, so SVM reached promising results. SVM outperformed all other algorithms, achieving a good accuracy, precision, recall, and F1-score for all measures
* SVM uses the so-called kernels function to help separate labeled data. One of the advantages associated with using kernels in SVM is that SVM applies kernel definitions to non-vector inputs, i.e., inputs without size or direction, which are particularly important in the medical field and critical to biological applications. Such an advantage allows SVM to label DNA and protein sequences. In addition, kernels can be defined based on a combination of different data types.