Literature Survey

1. **Paper Name :** Analysis of Chronic Kidney Disease Dataset by Applying Machine Learning Methods

   Author : Yedilkhan Amirgaliyev , Shahriar Shamiluulu , Azamat Serek

   Year of Publication : 2019

   Conference : IEEE

   Description : Diagnosing of chronic kidney diseases is generally invasive, costly, time-consuming and often risky. In this research study, the effects of using clinical features to classify patients with chronic kidney disease by using support vector machines algorithm is investigated. The chronic kidney disease dataset is based on clinical history, physical examinations, and laboratory tests. Experimental results showed over 93% of success rate in classifying the patients with kidney diseases based on three performance metrics i.e., accuracy, sensitivity and specificity.

2. **Paper Name :** A Novel Approach to Predict Chronic Kidney Disease using Machine Learning Algorithms

   Author : Bhavya Gudeti , Shashvi Mishra , Amit Kumar Tyagi

   Year of Publication : 2020

   Conference : IEEE

   Description : Machine Learning, is making sensible applications in the areas such as analyzing medical science outcomes, sleuthing fraud etc. For the prediction of chronic diseases various machine learning algorithms are implemented. Main aim was to differentiate the performance of various machine learning algorithms that are primarily based on its accuracy. This research work has idolized Rcode to compare their performance. The pivotal purpose of this study is to analyze the Chronic Kidney Disease dataset and conduct CKD and Non CKD classification cases

3. **Paper Name :** Prediction of Chronic Kidney Disease using Adaptive Hybridized Deep Convolutional Neural Network on the Internet of Medical Things Platform

Author : Guozhen Chen; Chenguang Ding; Yang Li; Xiaojun Hu

Year of Publication : 2020

Conference : IEEE

Description : The development of automated tools to accurately identify subtypes of kidney cancer is, therefore, an urgent challenge in the recent past. In this paper, to examine the ability of various deep learning methods an Adaptive hybridized Deep Convolutional Neural Network (AHDCNN) has been proposed for the early detection of Kidney disease efficiently and effectively. Classification technology efficiency depends on the role of the data set. To enhance the accuracy of the classification system by reducing the feature dimension an algorithm model has been developed using CNN. These high-level properties help to build a supervised tissue classifier that discriminates between the two types of tissue.

4. **Paper Name :** Chronic Kidney Disease Stage Identification in HIV Infected Patients using Machine Learning

Author : Asfakahemad , DheerajKumar Singh , Yassir Farooqui

Year of Publication : 2021

Conference : IEEE

Description : Patients with HIV have more chances to be affected with CKD in critical condition. Early detection of CKD helps patients to obtain prompt care ald delays the further progression of disease. With the availability of pathology data, the use of machine-learning techniques in healthcare for classification and prediction of disease has become more common. This paper presents the classification of CKD using machine learning models. Based on the glomerular filtration rate, the CKD stages are also calculated for patients diagnosed with CKD. DNN model outperforms with 99% of accuracy in classifying CKD patients with HIV.

5. **Paper Name :** Early Detection of Kidney Disease Using ECG Signals Through Machine Learning Based Modelling

Author : Tahsin M. Rahman, Saima Siddiqua, Siam E. Rabby, Nahid Hasan

Year of Publication : 2019

Conference : IEEE

Description : Since cardio-vascular diseases and the chronic kidney disease is inter-related, this model can be used for patients undergoing cardio-vascular problems to determine whether their kidneys have been effected or not. If the Chronic Kidney Disease (CKD) can be diagnosed at an earlier stage, it may give the patient some time to help reverse the disease or at least slow its progression by taking necessary medical steps. For this model, digitized ECG data was collected from open access databases such as PTB (for kidney patients) and Fantasia (for healthy people) from Physionet Database (www.physionet.org) and the model was later validated using different data from the same online database. The validation process gave satisfactory results, as the model could successfully classify the users from being healthy or a kidney patient.

6. **Paper Name :** Optimization of Prediction Method of Chronic Kidney Disease Using Machine Learning Algorithm

Author : Pronab Ghosh , Shahana Shultana , Saima Afrin

Year of Publication : 2021

Conference : IEEE

Description : In this paper, the overall study has been implemented based on four reliable approaches, such as Support Vector Machine (henceforth SVM), AdaBoost (henceforth AB), Linear Discriminant Analysis (henceforth LDA), and Gradient Boosting (henceforth GB) to get highly accurate results of prediction. These algorithms are implemented on an online dataset of UCI machine learning repository. The highest predictable accuracy is obtained from Gradient Boosting (GB) Classifiers which is about to 99.80% accuracy. Later, different performance evaluation metrics have also been displayed to show appropriate outcomes. To end with, the most efficient and optimized algorithms for the proposed job can be selected depending on these benchmark.