Project Design Phase 1

Proposed Solution Document

Date	13 October 2022
Team ID	PNT2022TMID53276
Project Name	Early Detection Of Chronic Kidney Disease Using Machine Learning
Maximum Marks	2 Marks

S. No	Parameter	Description
1.	Problem Statement (Problem to be solved)	The worldwide health care system is extremely concerned about chronic kidney disease. Individuals with CKD must concentrate on providing as many people as possible with effective, cost-proven medicines while taking into account their limited needs, human, and financial resources. The rise of chronic kidney disease (CKD), which is currently wreaking havoc on society, is frightening. CKD is one of the most critical ill ness nowadays and proper diagnosis is required as soon as possible.
2.	Idea/Solution description	The current diagnostic method relies on the analysis of urine with the aid of serum creatinine levels. This is accomplished using a variety of medical techniques, including ultrasonography and screening. Patients who have hypertension, a history of cardiovascular disease, a current illness, or who have had renal disease in a family member are all screened during the screening process. The suggested method includes measuring the urine albumin-to-creatinine ratio and estimating GFR from serum creatinine levels (ACR). The dataset shows input parameters collected from the CKD patients and the models are trained and validated for the given input parameters..

3.	Novelty/Uniqueness	To diagnose CKD, decision tree, random forest, and support vector machine learning models are built. The suggested solution uses ensemble methods for analysis and restricts the selection of attributes to a subset utilising feature analysis
4.	SocialImpact/Customer Satisfaction	It prevents the kidney failure by diagnosing it in the early stages which requires continuous dialysis or kidney transplantation to maintain a normal life. The quality of life for CKD patients with a high risk of developing ESKD may be improved with prompt management, which may also lower morbidity, mortality, and healthcare expenditures associated with KRT. Early prediction would reduce the risks and improves the life expectancy.
5.	Business Model (Revenue Model)	It can earn money through patients and very helpful for them too .This product can be utilized by patients and also people who wants to know about their kidney health. It is productive and helpful for patients by rescuing them from kidney failure.
6.	Scalability of the Solution	To execute this technique we need to develop a web Application which helps in early prediction of the disease by using various data given by the people.. A future of automated artificialmedical assistants, however, may become a reality with more data, greater effectiveness, and greater accuracy.