Model Development Phase Template

Date	15 March 2024
Team ID	xxxxxx
Project Title	Chronic Kidney Disease
Maximum Marks	5 Marks

Feature Selection Report Template

In the forthcoming update, each feature will be accompanied by a brief description. Users will indicate whether it's selected or not, providing reasoning for their decision. This process will streamline decision-making and enhance transparency in feature selection.

Feature	Description	Selected (Yes/No)	Reasoning
id	Patient id	No	**Irrelevant to the Project**
age	Age of the patient	No	**While age is a general risk factor, it is not as specific or direct an indicator of CKD as some biochemical markers.**
blood pressure	Blood pressure measurement.	No	**CKD can also be caused by other factors such as genetic disorders, glomerulonephritis, infections, or exposure to toxins. In such cases, blood pressure might not be the primary or initial indicator of kidney damage**

Specific gravity	Measure of urine density.	**No**	**This measure of urine concentration can be affected by hydration status and other factors, making it less specific for CKD.**
albumin	Protein levels in urine.	**yes**	**Proteinuria (high levels of albumin in urine) is a key marker for kidney disease.**
sugar	Sugar levels in urine.	**yes**	**Glycosuria (presence of sugar in urine) is primarily associated with diabetes mellitus**
Red blood cells	Red blood cell count.	**yes**	**The presence of red blood cells in urine (hematuria) can indicate underlying kidney issues**
Pus cell	Presence of pus cells in urine.	**no**	**Presence of pus cells might be more indicative of infections rather than CKD.**
Pus cell clumps	Presence of clumps of pus cells.	**no**	**Similar to pus cells, pus cell clumps may indicate urinary tract infections rather than chronic kidney issues.**
bacteria	Presence of bacteria in urine.	**no**	**Presence of bacteria in urine is usually a sign of infection and not directly indicative of CKD.**
Blood glucose random	Random blood glucose level.	**no**	**While it indicates diabetes, it does not directly measure kidney function or damage.**
Blood urea	Level of urea in blood.	**no**	**It is a secondary consequence of reduced kidney function, not a direct measure of the kidney's structural integrity.**

Serum creatinine	Level of creatinine in blood.	**yes**	**High serum creatinine levels are a strong indicator of reduced kidney function.**
Sodium	Sodium levels in blood.	**no**	**Sodium imbalances can also be caused by factors unrelated to CKD, such as dietary intake or other endocrine disorders.**
potassium	Potassium levels in blood.	**no**	**Potassium levels can be affected by various factors, including medication, diet, and other diseases.**
hemoglobin	Hemoglobin level in blood.	**yes**	**Low hemoglobin levels can be associated with chronic kidney disease.**
Packed cell volume	Volume percentage of red blood cells in blood	**No**	**Was highly correlated with the rest of the data, specifically with hemoglobin**
White blood cell count	Count of white blood cells.	**no**	**Elevated WBC count is a general marker of inflammation or infection, not specific to kidney disease.**
Red blood cell count	Count of red blood cells.	**yes**	**Low red blood cell count can indicate anemia, often associated with kidney disease.**
Hypertension	Presence of hypertension (high blood pressure).	**yes**	**Hypertension is both a cause and a consequence of kidney disease.**
Diabetes mellitus	Presence of diabetes.	**yes**	**Diabetes mellitus is one of the primary causes of CKD. Persistent high blood glucose levels damage the kidney's blood vessels and filtering units over time.**

Coronary artery disease	Presence of coronary artery disease.	**no**	**While related, coronary artery disease is a distinct condition with its own primary causes.**
Appetite	Patient's appetite.	**yes**	**While appetite changes can be a symptom of CKD, it is a more subjective measure and may not be as directly correlated as other clinical indicators.**
Pedal edema	Swelling in the legs.	**yes**	**Pedal edema (swelling in the legs) is a common symptom of kidney disease, particularly in its advanced stages. It indicates fluid retention due to the kidneys' reduced ability to remove excess fluid and salt from the body.**
anemia	Presence of anemia.	**no**	**Anemia is a consequence of CKD rather than a primary indicator.**
class	Target variable, which could indicate the diagnosis or severity of a disease.	**Yes**	**Its is our target variable for the model**