

Model Development Phase Template

Date	11 July 2024
Team ID	SWTID1720092248
Project Title	Revolutionizing Liver Care: Predicting Liver Cirrhosis Using Advanced Machine Learning Techniques
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
Age	Age of the patient	Yes	Age is a critical factor in determining health conditions,
Gender	Gender of the patient	Yes	Gender can influence the likelihood of certain diseases,
Place	Location where the patient lives	No	Place was not directly correlated with the target variable
Duration	Duration of alcohol consumption	Yes	Long-term alcohol consumption is a significant risk factor

Quantity	Quantity of alcohol consumed	Yes	The amount of alcohol consumed is directly related to liver health.
Type	Type of alcohol consumed	Yes	Different types of alcohol can have varying effects on the liver.
Hepatitis B	Hepatitis B infection	Yes	Hepatitis B is a known risk factor for liver cirrhosis.
Hepatitis C	Hepatitis C infection	Yes	Hepatitis C is also a known risk factor for liver cirrhosis.
Diabetes	Diabetes status	Yes	Diabetes is associated with metabolic conditions that can affect liver health.
Blood Pressure	Blood pressure (mmHg)	No	Initial analysis showed no significant correlation with liver health.
Obesity	Obesity status	Yes	Obesity is a significant risk factor for liver disease, including fatty liver disease.
Family History	Family history of liver disease	Yes	Genetic predisposition plays a role in the likelihood of developing liver disease.
TCH	Total Cholesterol	Yes	Cholesterol levels can be indicative of overall metabolic health, which affects the liver.
TG	Triglycerides	Yes	Elevated triglycerides can indicate metabolic issues affecting the liver.

LDL	Low-density lipop	No	Initial analysis showed no significant correlation with li
HDL	High-density lipop	Yes	HDL levels are important indicators of cardiovascular an
Hemoglobin	Hemoglobin level	Yes	Hemoglobin levels can reflect the oxygen-carrying capa
PCV	Packed cell volum	Yes	PCV is an indicator of the proportion of blood volume o
RBC	Red blood cell cou	Yes	RBC count is crucial for assessing the blood's capacity t
MCV	Mean corpuscular	No	Initial analysis showed no significant correlation with li
MCH	Mean corpuscular	No	Initial analysis showed no significant correlation with li
MCHC	Mean corpuscular	No	Initial analysis showed no significant correlation with li
Total Count	Total white blood	Yes	White blood cell count can indicate immune system acti
Polymorphs	Polymorph perce	No	Initial analysis showed no significant correlation with li

Lymphocytes	Lymphocyte percentage	Yes	Lymphocyte levels can indicate immune system health and liver function.
Monocytes	Monocyte percentage	No	Initial analysis showed no significant correlation with liver health.
Eosinophils	Eosinophil percentage	No	Initial analysis showed no significant correlation with liver health.
Basophils	Basophil percentage	No	Initial analysis showed no significant correlation with liver health.
Platelet Count	Platelet count (lak)	Yes	Platelet levels can reflect blood clotting ability and liver function.
Total Bilirubin	Total bilirubin level	Yes	Bilirubin levels are directly related to liver function.
Direct	Direct bilirubin level	Yes	Direct bilirubin levels indicate liver's ability to conjugate bilirubin.
Indirect	Indirect bilirubin level	Yes	Indirect bilirubin levels indicate the amount of unconjugated bilirubin.
Total Protein	Total protein level	Yes	Total protein levels can reflect overall liver function and health.
Albumin	Albumin levels (g)	Yes	Albumin levels are indicative of liver's ability to synthesize proteins.

Globulin	Globulin levels (g	Yes	Globulin levels can reflect immune function and protein
A/G Ratio	Albumin/Globulin	Yes	A/G ratio can provide insights into liver function and protein balance.
AL. Phosph	Alkaline phosphat	Yes	Elevated levels can indicate liver damage or disease.
SGOT	Serum glutamic o	Yes	Elevated levels can indicate liver damage or disease.
SGPT	Serum glutamic p	Yes	Elevated levels can indicate liver damage or disease.
USG Abdon	Ultrasound results	Yes	Ultrasound results can provide visual confirmation of liver condition.