Project Design Phase-I
Proposed Solution

Date	06 May 2023
Team ID	NM2023TMID15405
Project Name	Identifying Perinatal Health Risks using Machine Learning Techniques

Proposed Solution :

S. No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Perinatal health is a critical area of healthcare that involves the care of mothers and infants during pregnancy, childbirth, and the first few weeks of life. Identifying potential perinatal health risks is crucial to improving outcomes for both mothers and infants. However, traditional methods of identifying perinatal health risks rely on manual chart reviews and clinical assessments, which can be time-consuming and prone to errors. Machine learning techniques offer a promising alternative for identifying potential perinatal health risks more efficiently and accurately.
2.	Idea / Solution description	Ideas for this project include feature engineering to identify the most informative features, data pre-processing to clean and transform the data, training and evaluating a decision tree algorithm using appropriate evaluation metrics, and interpreting the results to gain insights into perinatal health risks.
3.	Novelty / Uniqueness	The uniqueness of this project lies in its application of machine learning techniques to identify perinatal health risks. While traditional methods of identifying perinatal health risks rely on manual chart reviews and clinical assessments, machine learning offers a promising alternative for identifying potential health risks more efficiently and accurately. By developing and evaluating machine learning models using maternal health data, foetal monitoring data, and birth outcomes, this project aims to provide healthcare providers with an efficient and reliable tool for identifying perinatal health risks. The project's focus on identifying perinatal health risks using machine learning techniques is unique and has the potential to improve outcomes for both mothers and infants.
4.	Social Impact / Customer Satisfaction	The uniqueness of this project lies in its application of machine learning techniques to identify perinatal health risks. While traditional methods of identifying perinatal health risks rely on manual chart reviews and clinical assessments, machine learning offers a

		promising alternative for identifying potential health risks more efficiently and accurately. By developing and evaluating machine learning models using maternal health data, foetal monitoring data, and birth outcomes, this project aims to provide healthcare providers with an efficient and reliable tool for identifying perinatal health risks. The project's focus on identifying perinatal health risks using machine learning techniques is unique and has the potential to improve outcomes for both mothers and infant.
5.	Business Model (Revenue Model)	There is no direct business model or revenue generation for this project, as it is primarily focused on improving healthcare outcomes rather than generating profit. However, there could be commercial applications for a machine learning tool developed for identifying perinatal health risks, such as licensing the tool to other healthcare providers or integrating it into electronic health records. These potential revenue streams are secondary to the project's primary goal of improving healthcare outcomes.
6.	Scalability of the Solution	The scalability of the solution depends on the specific implementation and resources available. With proper optimization and use of scalable computing frameworks, the solution can potentially handle larger datasets and achieve faster processing times.