PERINATAL HEALTH RISKS USING MACHINE LEARNING

SOLUTION REQUIREMENTS

DATE	13 MAY 2023
TEAM ID	NM2023TMID08443
PROJECT NAME	PERINATAL HEALTH RISK USING MACHINE LEARNING

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR NO.	Functional Requirements (Epic)	Sub requirements (story/sub-task)
FR-1	**Data collection**	The system should be able to collect and store perinatal health data, including maternal health history ,perinatal care information, and revelant clinical data.
FR-2	**Risks prediction**	The system should utilize machine learning algorithms to analyze the collected data and predict perinatal health risks for each patient,such preterm birth, gestational diabetes,preeclampsia and other complications.
FR-3	**Real-time monitoring**	The solution should provide real-time monitoring of maternal and fetal health indicators,such as blood pressure,heart rate,fetal movements,and other vital signs.
FR-4	**Alerts and notifications**	The system should generate alerts and notifications to healthcare providers and expectant mothers in case of identified risks, abnormal readings,or the need for immediate and attention.
FR-5	**Decision support**	The solution should provide evidence-based recommendations and guidelines to

		healthcare professionals to assist in making informed decisions regarding perinatal care and interventions based on the identified risks individual patient characteristics.
FR-6	**User management**	The solution support user management functionalities, including user authentication,access control,and users roles,to ensure the appropriate access and patient data for healthcare provides and expectant.

Non Functional requirements:

Following are the non-functional requirements of the proposed solution.

FR NO.	Non- Functional Requirement	Description
NFR-1	**Accuracy**	The system should have high level of accuracy in perinatal health risks to ensure reliable and trustworthy results for healthcare providers and expectant mothers.
NFR-2	**Performace**	The solution should be able to handle a large volume of data perform real-time risk prediction and monitoring without significant delays or system slowdowns.
NFR-3	**Security**	The system should implement robust security measures to protect the privacy and confidentiality of patient data. This includes data encryption, access control, audit trails, and compliance with relevant data protection regulations (e.g.,HIPAA).
NFR-4	**Scalability**	The solution should be scalable to accommodate an increasing number of users and handle growing dataset. It should be able to scale up or down based on the

		demand and maintain performance and responsiveness.
NFR-5	**Usability**	The user interface should be intuitive, user-friendly, and easy to navigate for healthcare professionals and expectant mothers.
NHR-6	**Reliability**	The system should be highly reliable and variable, minimizing downtime and ensuring continuous access to the system.
NFR-7	**Regulatory compliance**	The system should comply with relevant healthcare regulations and standards, such as HIPAA(Health insurance portability and accountability act), to ensure the security and privacy of patient data.