**Project Design Phase-**
**Solution Architecture**

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| Team ID | NM2023TMID08443 |
| Project Name | Identifying Perinatal Health Risks using Machine Learning Techniques |

**Solution Architecture :**

Advances in public health and medical care have enabled better pregnancy and birth outcomes. The rates of perinatal health indicators such as maternal mortality and morbidity; fetal, neonatal, and infant mortality; low birthweight; and preterm birth have reduced over time. However, they are still a public health concern, and considerable disparities exist within and between countries

For perinatal researchers who are engaged in unraveling the tangled web of causation for maternal and child health outcomes and for clinicians involved in the care of pregnant women and infants, artificial intelligence offers novel approaches to prediction modeling, diagnosis, early detection, and monitoring in perinatal health. Machine learning, a commonly used artificial intelligence method, has been used to predict preterm birth, birthweight, preeclampsia, mortality, hypertensive disorders, and postpartum depression

Real-time electronic health recording and predictive modeling using artificial intelligence have found early success in fetal monitoring and monitoring of women with gestational diabetes especially in low-resource settings. Artificial intelligence–based methodologies have the potential to improve prenatal diagnosis of birth defects and outcomes in assisted reproductive technology too. ML methods have been used to predict PTB,41 birthweight, and postpartum depression using existing data, whereas predictions about preeclampsia, mortality, hypertensive disorders during pregnancy, labor, and delivery have been made using both real-time and existing data.

# SOLUTION ARCHITECTURE DIAGRAM

PATIENT

Perinatal health risk data collection


Encoding & Data set

Specialized check of pregnant

Health data

Pregnency Risk Factor

High risk

Mid risk

Low risk


Machine learning model

High risk perinatal detected