# PROJECT DESIGN PHASE-II

## TECHNOLOGY STACK (ARCHITECTURE & STACK)

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

**Technical Architecture:**

The deliverable shall include the architectural diagram as below and the information as per the table1 & table2

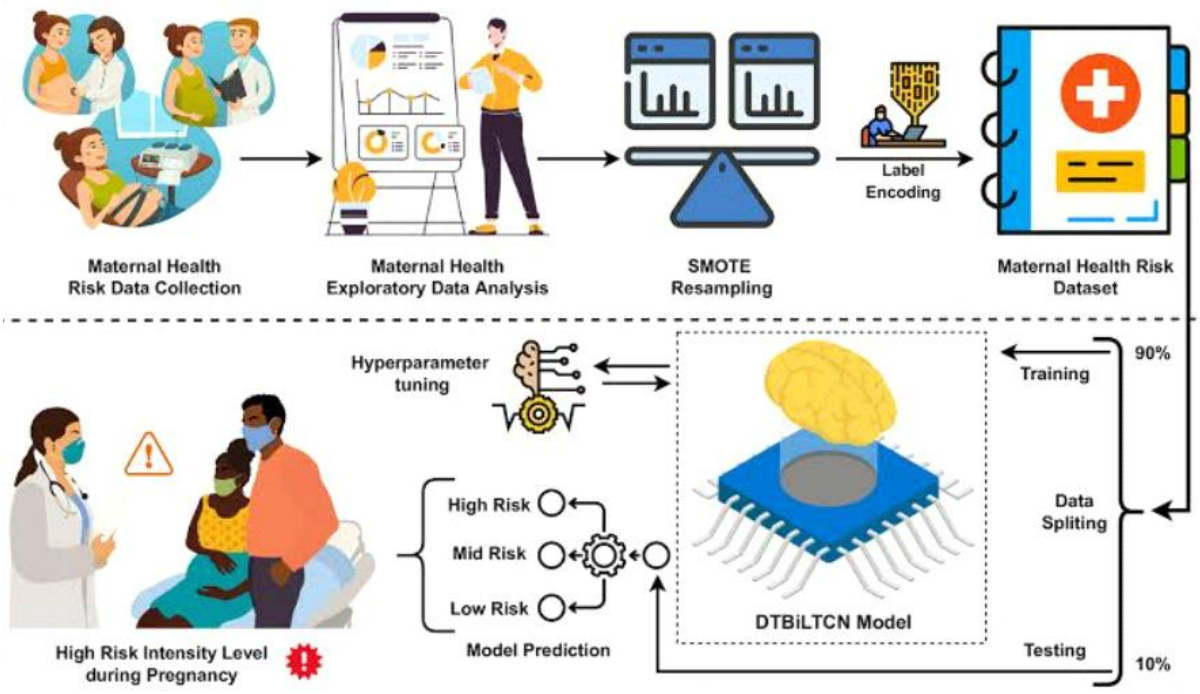

**TABLE-1:COMPONENTS & TECHNOLOGIES:**

| S.NO | COMPONENT | DESCRIPTION | TECHNOLOGY |
|---|---|---|---|
| 1. | Data collection | Electronic systems for collecting and soring patient health information. | Electronic health records (ECR) |
| 2. | Feature extraction | To identify key features related to perinatal health risks. | Natural language processing (NLP) |
| 3. | Data preprocessing | This step ensure the quality and reliability of the data. | Data cleaning and normalization |
| 4. | Feature selection | This step reduce the dimensinality of the data and improves the model's performance. | Statistical techniques |
| 5. | Model selection | Perinatal health risk based on the selected features. | Classification algorithms |

**TABLE-2: Application characteristics**:

| S.NO | CHARACTERISTICS | DSECRIPTION | TECHNOLOGY |
|---|---|---|---|
| 1 | Maternal smoking status | Indicates whether the mother is a smoker or non-smoker during pregnancy. | Represented as a binary variable (0 for non-smoker, 1 for smoker) |

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|---|---|---|---|
| 2 | Maternal diabetes | Indicates whether the mother as diabetes (pre-existing or gestational). | Represented as a binary variable (0 for no diabetes, 1 for diabetes |
| 3 | Previous preterm birth | Indicates if the mother had a previous preterm birth in a prior pregnancy. | Based on medical records or self reporting. |
| 4 | Multiple gestation | Indicates if the pregnancy involves multiple fetuses | Based on the ultrasound or medical records |