

Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	17 th November 2023
Team ID	SI-GuidedProject-610171-1701658790
Project Name	FetalAI: Using Machine Learning to predict and monitor Fetal Health
Maximum Marks	4 Marks

Technical Architecture

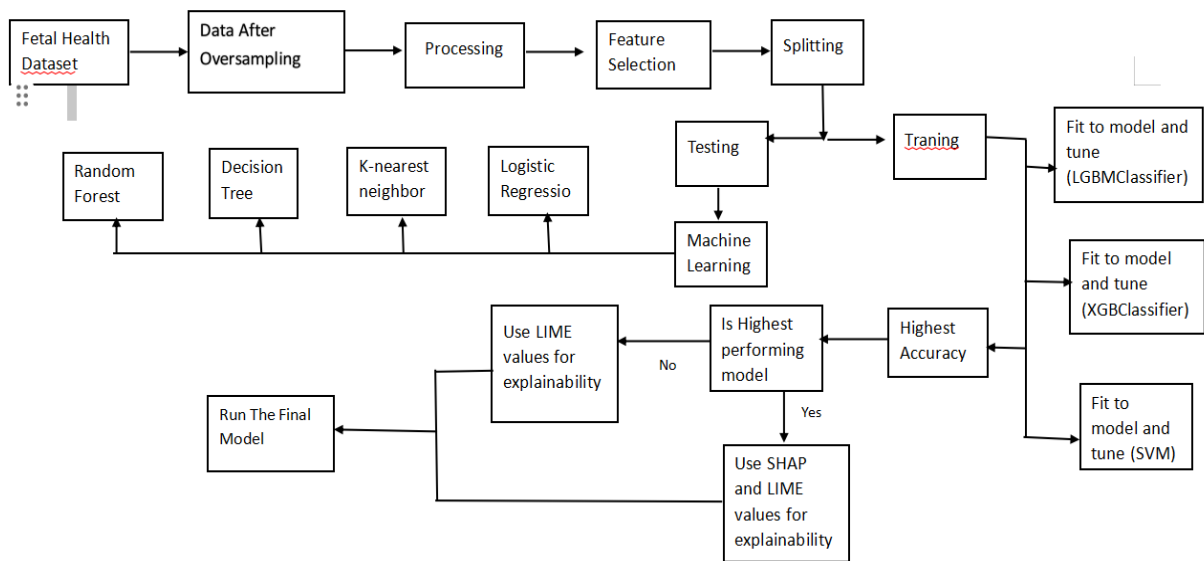


Table -1: Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	User interacts to the model using Streamlit	Streamlit
2.	Application Logic-1	Use libraries such as numpy, pandas, Seaborn in model building	Jupyter Notebook
3.	Application Logic-2	User libraries such as pickle and streamlit to pick the best accuracy and connect to the server	Python
4.	Database	Used the dataset from the Kaggle to train and process the data	Fetal_health.csv
5.	External API	Used external server to run the model	Streamlit
6.	Machine Learning Model	Used model such as Random Forest Classifier, Decision Tree Classifier, K	Jupyter notebook

		Neighbors Classifier to test in highest probability	
--	--	---	--

Table-2: Application Characteristics:

S.No	Characteristic	Description	Technology
1.	Availability	Ensuring consistent access to the model	Redundant storage, local servers
2.	Performance	Efficient data processing and predictions	Optimized algorithms, efficient code
3.	Scalability	Handling larger datasets and user demands	Scalable code, optimized algorithms
4.	Interpretability	Explaining model predictions for understanding	Feature importance, model explainers
5.	User Interface	Intuitive platform for easy user interaction	Streamlit, interactive visualization
6.	Data Handling	Effective data management and processing	Pandas, NumPy, data preprocessing
7.	Model Accuracy	Ensuring reliable predictions for fetal health	Fine-tuning, ensemble methods