Project Design Phase-II
Data Flow Diagram & User Stories

Date	
Team ID	LTVIP2026TMIDS45779
Project Name	Electric Motor Temperature Prediction Using Meachine Learning
Maximum Marks	4 Marks

Data Flow Diagrams:

Electric Motor Temperature Prediction System

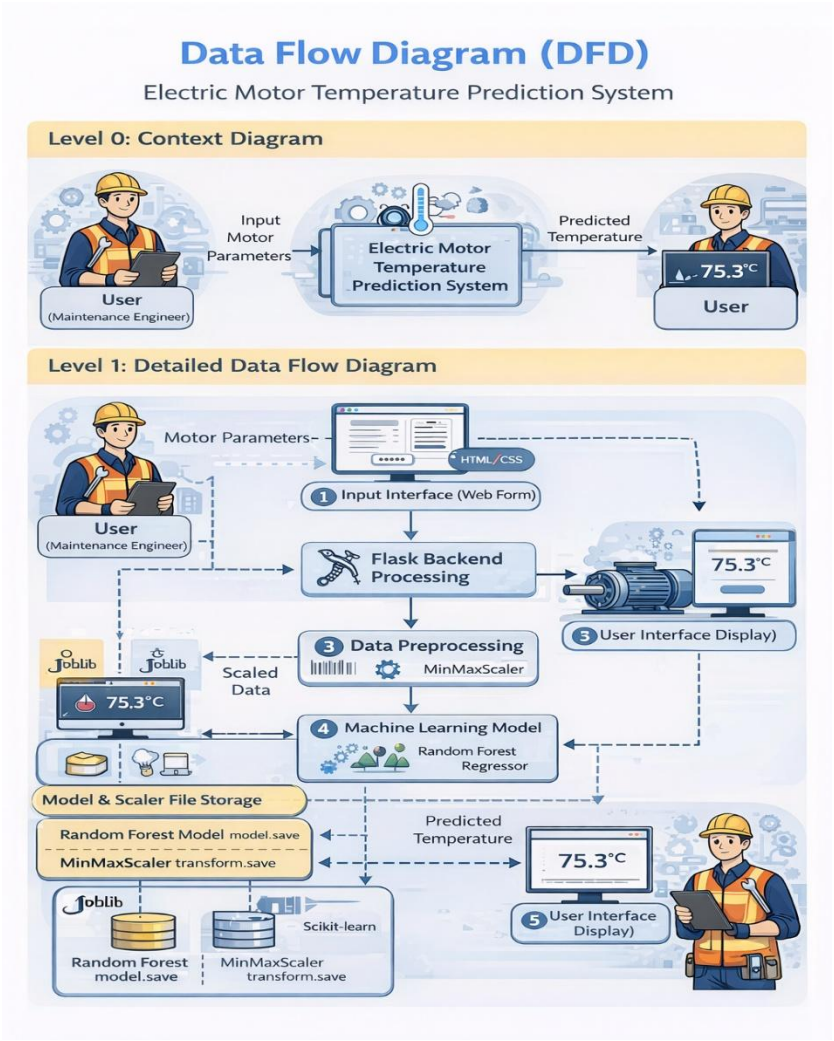
A **Data Flow Diagram (DFD)** is a graphical representation of how data moves within the Electric Motor Temperature Prediction System. It clearly illustrates how input data enters the system, how it is processed by different components, and how the final prediction result is generated and displayed.

In this project, the DFD represents the flow of motor sensor parameters (such as ambient temperature, coolant temperature, voltage components, and current components) through preprocessing and machine learning stages to produce the predicted Permanent Magnet (PM) surface temperature.

The DFD helps in understanding:

- How user input is captured
- How data is transformed and scaled
- How the machine learning model processes the data
- Where the trained model and scaler are stored
- How the predicted temperature is returned to the user

DIAGRAM:


Data Flow Diagram (DFD)
Electric Motor Temperature Prediction System
Level 0: Context Diagram
User
(Maintenance Engineer)
Input
Motor
Parameters
Electric Motor
Temperature
Prediction System
Predicted
Temperature
75.3°C
User
Level 1: Detailed Data Flow Diagram
Motor Parameters
HTML/CSS
1 Input Interface (Web Form)
User
(Maintenance Engineer)
Flask Backend
Processing
75.3°C
5 User Interface Display)
Joblib
Joblib
Scaled
Data
3 Data Preprocessing
MinMaxScaler
75.3°C
4 Machine Learning Model
Random Forest
Regressor
Model & Scaler File Storage
Random Forest Model model.save
MinMaxScaler transform.save
Predicted
Temperature
75.3°C
Joblib
Scikit-learn
Random Forest
model.save
MinMaxScaler
transform.save
5 User Interface
Display)