Rainfall Prediction using Machine Learning

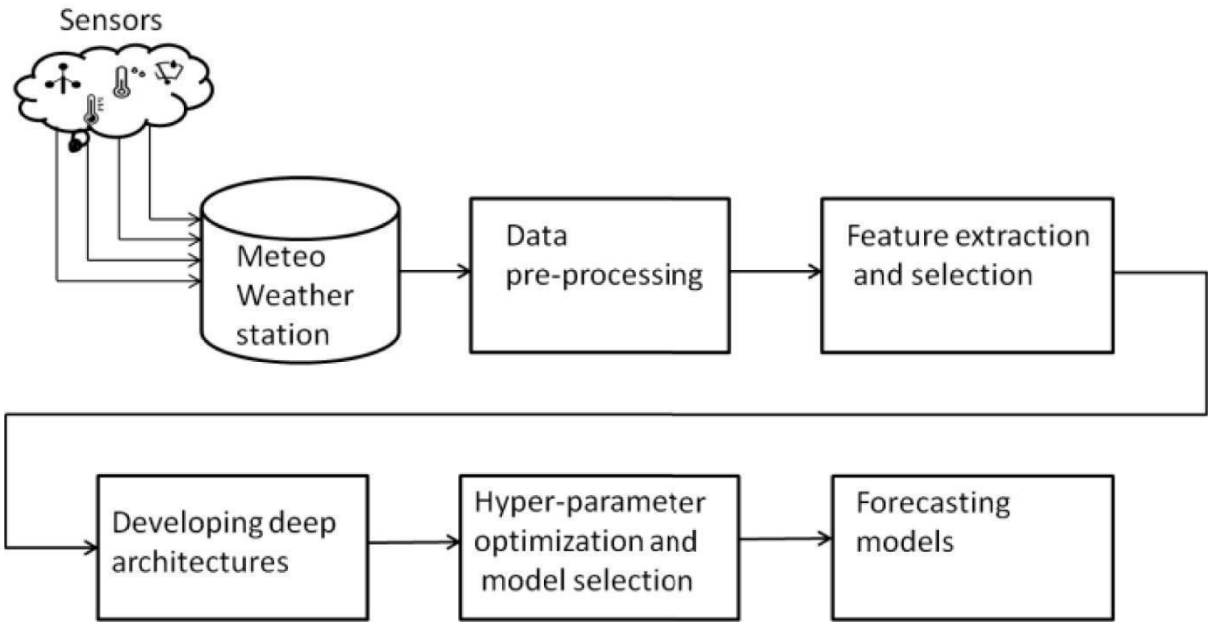
Date	3 oct 2025
Team ID	LTVIP2025TMIDS67798
Project Name	RAINFALL PREDICTION USING MACHINE LEARNING
Maximum Marks	10 Marks

Project Initialization and Planning Phase

Define Problem Statements (Customer Problem Statement Template):

Accurate prediction of rainfall is essential for farmers, meteorologists, and government agencies to make informed decisions regarding agriculture, water management, and disaster preparedness. Traditional weather forecasting models often fail to capture nonlinear patterns and sudden climatic changes due to their dependency on limited variables and static algorithms.

This project proposes a **machine learning-based approach** to predict daily rainfall (in millimeters) using historical weather data such as temperature, humidity, pressure, and wind speed. By employing algorithms like Random Forest, Gradient Boosting, and Neural Networks, the model aims to improve prediction accuracy and reliability. The project also focuses on identifying significant weather factors influencing rainfall and deploying a web-based Flask interface for real-time prediction and visualization.



I am (Customer)	I'm trying to	But because	Which makes me feel
	Predict rainfall	Traditional forecasts	Frustrated and uncertain

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