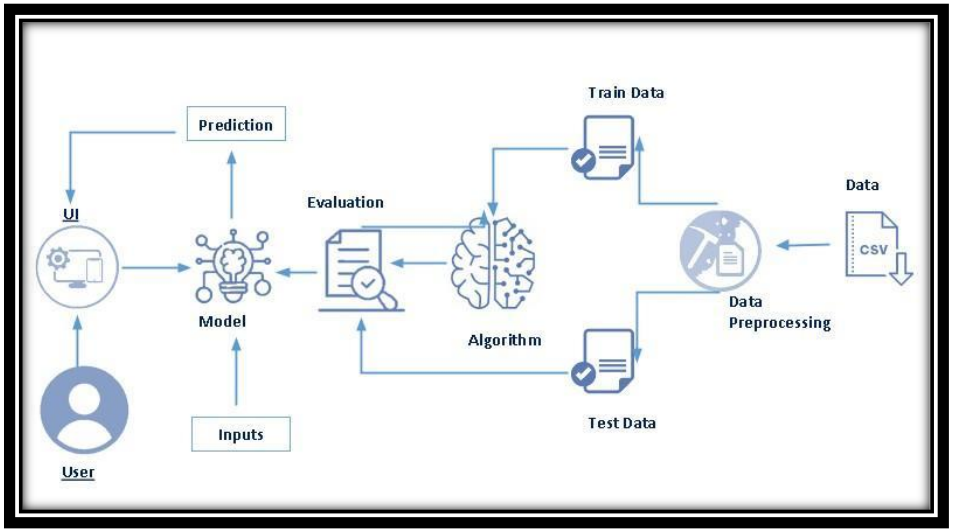
Project Design Phase-II
Data Flow Diagram & User Stories

Date	03 October 2022
Team ID	PNT2022TMID12895
Project Name	Machine Learning-Based Predictive Analytics for Aircraft Engine
Maximum Marks	4 Marks

Data Flow Diagrams:

A Data Flow Diagram (DFD) is a traditional visual representation of the information flows within a system. A neat and clear DFD can depict the right amount of the system requirement graphically. It shows how data enters and leaves the system, what changes the information, and where data is stored.

1. The dataset containing historical sensor data related to an aircraft engine is loaded from a CSV file into Python using anyone of the machine learning libraries available (sklearn).
2. This loaded data is then pre-processed and split into training and testing data in a specific proportion.
3. The model with the highest accuracy is chosen and the training data is then passed to it to train the model based on the historical sensor data to predict aircraft engine failures.
4. A web application is created using Flask, a light-weight python web framework, and is then hosted on an IBM Cloud server.
5. Sensor data entered by users in the Flask web application are then sent to the trained machine learning model to predict the chances of engine failure.
6. The classification model then classifies the engine as safe (1) or unsafe (0) based on the parameters the user enters.



User Stories

Use the below template to list all the user stories for the product.

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Customer (Web user)	Registration/Login	USN-1	As a user, I can register and login to my account on the Flask web application.	I can utilize the login functionality to register & access the application.	Medium	Sprint-1
	Machine Learning Prediction	USN-1	As a user, I am able to pass data to the ML model and view the results through the app.	I can view the predicted results.	High	Sprint-2
	Receive results through e-mail	USN-2	As a user, I can receive confirmation emails of the test results.	I can receive the predicted results in the form an email.	Low	Sprint-1