SOLUTION ARCHITECTURE

Date	26 September 2022
Team ID	PNT2022TMID00514
Project Name	Project - Machine Learning based Predictive analytics for Aircraft engine

Step by Step Progress

Machine learning techniques will be adopted for this project, and then we will follow the steps given below:

1. Process the dataset and find main factors affecting health of the engine

2. Develop simple machine learning model to predict the RUL of engines and verify the prediction accuracy.

3. Introduction of different advanced algorithms to make the prediction performance better , such as involving time series analysis.

Using Machine Learning Models:

1. Multiple Linear Regression :
   Multiple linear regression attempts to model the relationship between the sensor variables of our data and the Health Index by fitting a linear equation table observed data.
2. LSTM
   The LSTM Network model stands for Long Short Term Memory networks. These are a special kind of Neural Networks which are generally capable of understanding long term dependencies. This type of network is used to classify and make predictions from time series data.
3. Artificial Neural Networks :
   An Artificial neural network is an attempt to simulate the network of neurons that make up a human brain so that the computer will be able to learn things and make decisions in a human-like manner. ANNs are created by programming regular computers to behave as though they are interconnected brain cells.