SOLUTION ARCHITECTURE

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| Date | 12 October 2022 |
| Team ID | PNT2022TMID17747 |
| Project Name | Project - Machine Learning based Predictive analytics for Aircraft engine |

**Solution finding** :

Machine learning techniques will be adopted for this project, and the we will follow a three-step methodology:

1. Train and test the dataset and discover key parameters affecting engine health.

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

3. Introduce other advanced algorithms to further improve the prediction performance, such as involving time series analysis.

**Using Machine Learning Models:**

1.Logistic Regression :

Logistic Regression comes under the Supervised Learning technique. It is used for predicting the categorical dependent variable using a given set of independent variables.

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.

Comparing best results based on accuracy

Logistic Regression

Training Dataset

LSTM

Testing Dataset

Dataset

UI

Prediction of engine failure