INTRODUCTION TO PROJECT

Engine failure is highly risky and needs a lot of time for repair. Unexpected failure leads to loss of money and time. Predicting the failure prior, will save time, effort, money and sometimes even lives. The failure can be detected by installing the sensors and keeping a track of the values. The failure detection and predictive maintenance can be for any device, out of which we will be dealing with the engine failure for a threshold number of days.
The project aims to predict the failure of an engine by using Machine Learning to save loss of time & money thus improving productivity.

PROBLEM STATEMENT

Design a algorithm for predictive maintenance of engines using IBM cloud

SOLUTION

we sucessfully developed the model using IBM cloud

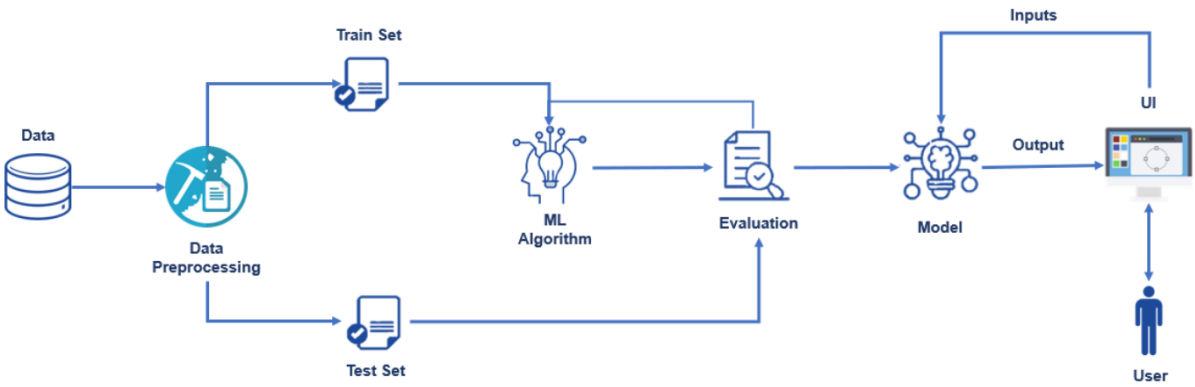
LITERATURE SURVAY

In manufacturing industry machines and systems become more advanced and complicated. Proper maintenance is crucial to ensure productivity, product quality, on-time delivery, and safe working environment. Recently, the importance of the predictive maintenance has been growing rapidly. Well applied predictive maintenance can be in many cases more cost effective than traditional corrective and preventive approaches to maintenance. Targeting this vibrant field, this paper reviews the literature of Predictive Maintenance (PdM). Published literature is systematically categorised and then methodically reviewed and analysed. Methodology for data acquisition, feature extraction, failure detection and prediction are presented. The connection between Maintenance field and Information Fusion has been highlighted. Statistical analysis based on Elsevier’s Scopus abstract and citation database has been performed. Various emerging trends in the field of Predictive Maintenance are identified to help specifying gaps in the literature and direct research efforts.

FLOWCHART

the process and flow of the project will be as follow -

- Download the dataset.
- Preprocess or clean the data.
- Analyze the pre-processed data.
- Train the machine with pre-processed data using an appropriate machine learning algorithm.
- Save the model and its dependencies.
- Build a Web application using flask that integrates with the model built.



CONCLUSION

The purpose of the project was to develop a model and algorithms using IBM cloud which can predict the failure of an engine by using Machine Learning to save loss of time & money thus improving productivity.
with the basic knowlidge of Python,Python Web Frame Works,Exploratory Data Analysis,Data Preprocessing Techniques,Machine Learning,Regression Algorithms,Classification Algorithms,Regression Algorithms we sucessfully developed the model for predective maintanance of engines using IBM cloud

FUTURESCOPE

If you could see into the future, you would never miss a production target, endure a safety incident, or have a machine go down. Unfortunately, unless we somehow gain the power of clairvoyance, this fantasy will forever be out of our reach. While we may not be

able to see into the future, we can predict it. By adopting a predictive-maintenance (PdM) strategy, you can mine your critical-asset data and identify anomalies or deviations from their standard performance. Such insights can help you discover and proactively fix issues days, weeks, or even months before they lead to failures. This can help you avoid unplanned downtime, reduce industrial maintenance overspend, and mitigate safety and environmental risks.

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