PyCK Project

Abstract -

Using machine learning for maintenance of machines/ equipments etc.(Predictive Maintenance)

Predictive maintenance refers to the use of data-driven, proactive **maintenance** methods that are designed to analyze the condition of equipment and help predict when **maintenance** should be performed.

Project domain - ML/Data science.

Libraries used:
Numpy
Pandas
sklearn
Matplotlib
seaborn
…

My Idea:
I will get a dataset from Kaggle/google for different machine/equipments(have some in mind but trying to get some good data) 1.(will update this)
Update -
I selected data for turbofan engine.
Link - https://ti.arc.nasa.gov/c/13/

From that data will try to get some results
1. fault detection
2. Remaining useful life
3. machine condition
using Machine learning methods.

Timeline:
Week 1 -
1. Data search and data cleaning
2. Will learn Sklearn/keras lib. For implementation.
3. More knowledge about the system I am working on

Week 2-
1. Data preparation
2. Will try different ML algo. (Kmeans/ KNN /SVM /regression)
3. Results

Reason for this project:
Last semester I took a course Applied Predictive Analytics (SC640). In that course We learn about different types of machine learning techniques for Predictive maintenance/fault detection /Remaining life prediction etc.
Prof was able to give us a minimum idea about how these things work but due to time we were not able to practice these algorithms as we didn't get any Assignments.

This project will help me to apply those techniques with the help of python.

References:
SC640 Course Material(https://www.sc.iitb.ac.in/courses.html#640)

PyCK slides