To
IITD-AIA Foundation of Smart Manufacturing

Subject : **Weekly Progress Report for Week 1**

Respected sir,
　　　　　This is my weekly report from 5 june to 11 june that will reflect my progress in the whole week.

What's happening this week:
- Building base for our project
- Deep learning
- Explore the dataset and other algorithms.

My Understanding on my project

An important concern in predictive maintenance is the prediction of remaining useful life (RUL), which is an estimate of the number of remaining years that a component in a production line is estimated to be able to function in accordance with its intended purpose before warranting replacement.

Remaining useful life (RUL) is the length of time a machine will operate before it requires repair or replacement. By estimating RUL, engineers can schedule maintenance, optimize operating efficiency, and avoid unplanned downtime. For this reason, estimating RUL is a top priority in predictive maintenance programs

Weekly Progress:

June 05:

Start learning from a recommended youtube channel about deep learning as a foundation for our projects.
- Introduction to deep learning
- Convolution neural network
- Reinforcement learning

June 06:
Continue the learning process on deep learning.

- Deep learning new frontier
- Text to image generation
- Modern era of statistics
- Future of robot learning

June 07:
- Learned about various libraries such as Numpy , pandas, matplotlib etc in greater detail.
- Learn about their use
- AI for Science

June 08:
- Implementation of code for deep learning.
- Faced problems while implementing
- Tried to overcome it by using various resources available on google and youtube.

June 09:

After project allocation, I started exploring about it
- About its dataset
- Algorithms that will be used
- Steps to perform this project

June 10:

- Study more about dataset
- Explore the algorithms like CNN and RNN
- Implementation of algorithms

June 11:

- Continue to study about the project and explore the ways to complete it.
- Learn about pyTorch.

ID	Name	May, 2023	Jun, 2023					Jul, 2023					Aug, 2023	
		25...	28 May	04 Jun	11 Jun	18 Jun	25 Jun	02 Jul	09 Jul	16 Jul	23 Jul	30 Jul	0..
1	Learning : Numpy		▊										
2	Learning : pandas		▊										
3	Learning: matplotlib			▊									
4	Deep learning			▊									
5	Deep Learning			▊									
6	Deep Learning				▊								
7	Learning : pytorch				▊								
8	Learning: tensorflow				▊								
9	Study on dataset				▊								
10	Data preprocessing					▊							
11	Data preprocessing					▊							
12	Feature selection and Engineering					▊							
13	Feature selection and Engineering						▊						
14	Feature selection and Engineering						▊						
15	Feature selection and Engineering						▊						
16	Model selection and training							▊					
17	Model selection and training							▊					
18	Model selection and training							▊					
19	Model selection and training							▊					
20	Model selection and training							▊					
21	Model evaluation						▊						
22	Model evaluation							▊					
23	Model evaluation							▊					
24	Model validation							▊					
25	Model validation							▊					
26	Model validation							▊					
27	implementation and integration							▊					
28	implementation and integration							▊					
29	implementation and integration							▊					
30	implementation and integration								▊				
31	Testing and Debugging								▊				
32	Testing and Debugging								▊				
33	Testing and Debugging								▊				
34	Documentation and reporting									▊			
35	Documentation and reporting									▊			
36	Documentation and reporting									▊			
37	Testing , analysis and optimization									▊			
38	Testing , analysis and optimization									▊			
39	Testing , analysis and optimization										▊		
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45	Testing , analysis and optimization											▊	
46	Testing , analysis and optimization											▊	
47	Testing , analysis and optimization											▊	
48	Final documentation and Reporting											▊	
49	Final documentation and Reporting											▊	
50	Final documentation and Reporting											▊	
51	Final documentation and Reporting												▊
52	Final documentation and Reporting												▊