To,
IITD-AIA Foundation of Smart Manufacturing

<center>*Subject:* **Weekly Progress Report**</center>

Dear sir,

      Following is the required progress report to the best of my knowledge considering relevant topics to be covered.

What happened last week:

- Flask and Django frameworks.
- Research on machine learning models.

What's happening this week:

Weekly Progress:

Following are the topics I've brushed upon and intend to learn deeper with upcoming days.

June 19:

- Learned about Time Complexities and Model Efficiency.
- Explored the concept of time complexity in machine learning algorithms.
- Explored methods like feature selection, dimensionality reduction, and algorithmic optimizations.

June 20:
- AutoML
- Explored automated machine learning (AutoML) techniques.
- Investigated automated feature engineering and hyperparameter optimization.
- Explored visualizations and tools to understand the decision-making process of machine learning models.

June 21:
- Ensemble Learning
- Explored ensemble learning techniques, which combine multiple models to improve performance and robustness.
- Investigated applications of deep reinforcement learning in game playing and robotics.

June 22:
- Time Series Analysis
- Explored time series analysis techniques for handling data with temporal dependencies.
- Investigated methods such as autoregressive integrated moving average (ARIMA) models and seasonal decomposition of time series (STL) algorithms.

June 23:
- Explored generative adversarial networks, a framework for training generative models.
- Explored raw dataset received.

June 24:
- Started pre-processing the raw dataset provided to us.
- Merged the datasets provided.
- Yet to extract any information from the data as of now.

Weekly Progress:

This week, I delved into learning to optimize the machine learning models. And additionally looked into more machine learning techniques.

After dataset was provided, I began exploration and setting plans on how to utilize it.

Overall, the week was full of learning and executing those learnings.
It is exciting to enter the next week with dataset to work on create some initial models.