Model Development Phase Template

Date	15 March 2024
Team ID	SWUID20240034764
Project Title	Predicting Full Load Electrical Power Output of a Base Load Operated Combined Cycle Power Plant Using Machine Learning
Maximum Marks	5 Marks

Feature Selection Report Template

In the forthcoming update, each feature will be accompanied by a brief description. Users will indicate whether it's selected or not, providing reasoning for their decision. This process will streamline decision-making and enhance transparency in feature selection.

Feature	Description	Selected (Yes/No)	Reasoning
Ambient Temperature	The temperature of the surrounding environment.	Yes	It affects the efficiency of the power plant.
Ambient Pressure	The atmospheric pressure in the environment.	Yes	It impacts the combustion process and power output.

Exhaust Vacuum	The pressure difference between the exhaust and the environment	Yes	It influences the efficiency of the steam turbine..
Plant Age	The age of the power plant	No	It affects efficiency over time but is not a variable in short-term prediction.
Prior_Purchases	Number of items customer had already purchased	Yes	From the histogram it is observed to be positively skewed
Product_importance	The number of previous the purchases made by the customer	Yes	It indicates if important products are delivered on time.
Fuel Flow Rate	The rate at which fuel is consumed.	Yes	Directly correlates with the power output of the plant.
Discount_offered	Indicated discounts percentage	Yes	From the histogram it is observed to be as positively skewed.
Weight_in_gms	Indicates Weight of product	Yes	Heavier products need more handling and specialized shipping. Light weight parcels are prioritized, causing longer transit times for heavy items.

Operator Experience	The experience level of the plant operators.	No	Human factor, not easily quantifiable for machine learning models.