Model Development Phase Template

Date	18 July 2024
Team ID	xxxxxx
Project Title	Predicting The Energy Output Of Wind Turbine Based On Weather Condition
Maximum Marks	6 Marks

Model Selection Report

In the forthcoming Model Selection Report, various models will be outlined, detailing their descriptions, hyperparameters, and performance metrics, including Accuracy or F1 Score. This comprehensive report will provide insights into the chosen models and their effectiveness.

Model Selection Report:

Model	Description	Hyperparameters	R2 Score
Random Forest Regressor	Ensemble of decision trees; robust, handles complex relationships, reduces overfitting, and provides feature importance for predicting wind turbine performance.	n_estimators = 750, max_depth = 4, max_leaf_nodes = 500, random_state = 42	R2 Score = 0.90
Linear Regression	Simple linear model; interpretable, captures linear relationships, suitable for initial insights into wind turbine performance.	-	R2 Score = 0.89