Model Development Phase Template

Date	15 March 2024
Team ID	SWTID1720171463
Project Title	Predicting The Energy Output Of Wind Turbine Based On Weather Condition
Maximum Marks	4 Marks

Initial Model Training Code, Model Validation and Evaluation Report

The initial model training code will be showcased in the future through a screenshot. The model validation and evaluation report will include classification reports, accuracy, and confusion matrices for multiple models, presented through respective screenshots.

Initial Model Training Code:

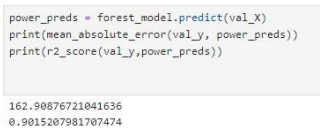
```
from sklearn.ensemble import RandomForestRegressor
from sklearn.metrics import mean_absolute_error,r2_score

forest_model = RandomForestRegressor(max_leaf_nodes =500, random_state=1)
forest_model.fit(train_X, train_y)
```

```
RandomForestRegressor
RandomForestRegressor(max_leaf_nodes=500, random_state=1)
```

```
power_preds = forest_model.predict(val_X)
print(mean_absolute_error(val_y, power_preds))
print(r2_score(val_y,power_preds))
```

```
162.90876721041636
0.9015207981707474
```

Model Validation and Evaluation Report:

Model	Classification Report	Accuracy	Confusion Matrix
Random forest		90%	Nil