

Model Development Phase Template

Date	03 july 2024
Team ID	739654
Project Title	Predicting co2 emissions by countries using machine learning
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 model training, accuracy presented through respective screenshots.

Initial Model Training Code:

```
[ ] #Training the model

from sklearn.ensemble import RandomForestRegressor
rand = RandomForestRegressor(n_estimators=10,random_state=52,n_jobs=-1)
rand.fit(x_train,y_train)
```


 <ipython-input-53-6c838af2cded>:5: DataConversionWarning: A column-vector y was passed when a 1d array was expected. Please change the shape of y to (n_samples,), for example us
rand.fit(x_train,y_train)

```
* RandomForestRegressor
RandomForestRegressor(n_estimators=10, n_jobs=-1, random_state=52)
```

```
[ ] ypred = rand.predict(x_test)
print(ypred)
```

 [2.23526022e+00 7.92900024e+01 4.63113569e+01 ... 9.33333333e+00
3.45749686e+01 6.00578821e+09]

```
[ ] #Accuracy score
#To check how well our model is performing on the test data
rand.score(x_train,y_train)
```

 0.9829119449040941

```
[ ] x_train
```

CountryName CountryCode IndicatorName Year

1937930	100	99	771	1990
2056226	102	101	104	1991
4291514	232	6	832	2006
1272651	211	202	1036	1983
4348108	34	40	382	2007
...
5030793	70	60	665	2011
491263	217	214	443	1972
3937352	237	233	750	2004
4686059	6	10	489	2009
4322341	0	2	263	2007

4525166 rows x 4 columns

```
[ ] x_pred=['7','5','44','1961']
```

```
[ ] rand.predict(x_pred)
```

/usr/local/lib/python3.10/dist-packages/sklearn/base.py:439: UserWarning: X does not have valid feature names, but RandomForestRegressor was fitted with feature names
warnings.warn(
array([134.18303659])