

## Model Development Phase Template

Date	10 July 2024
Team ID	739895
Project Title	Rising Waters: Machine Learning Approach To Flood Prediction
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:

```
y_pred=dt.predict(x_test)
y_pred=rf.predict(x_test)
y_pred=knn.predict(x_test)
y_pred=xgb.predict(x_test)
```

```
rf=RandomForestClassifier(n_estimators=20,random_state=42)
```

```
rf.fit(x_train,y_train)
```

```
RandomForestClassifier
RandomForestClassifier(n_estimators=20, random_state=42)
```

```
y_pred=rf.predict(x_test)
```

```
accuracy_score(y_test,y_pred)
```

```
0.9655172413793104
```

### Model Validation and Evaluation Report:

Model	Classification Report	Accuracy	Confusion Matrix
Logistic Regression	-	-	-
Random Forest	<pre> Classification Report:               precision    recall  f1-score   support       0       0.96       0.96       0.96        54      1       0.92       0.92       0.92        26   accuracy          0.94  macro avg          0.94  weighted avg       0.95           </pre>	96%	<pre> cm = confusion_matrix(y_test, y_pred) print("Confusion Matrix:") print(cm)  Confusion Matrix: [[26  0]  [ 1 21]]           </pre>