Model Development Phase

Date	5 October 2024
Team ID	LTVIP2024TMID24876
Project Title	Rising Waters: A 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 this. 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:

Train Test split for all models:

```
from sklearn.model_selection import train_test_split
x_tr,x_t,y_tr,y_t=train_test_split(x,y,test_size=0.3,random_state=0)
```

Random forest model:

```
from sklearn.ensemble import RandomForestClassifier
rf=RandomForestClassifier()
```

```
rf.fit(x_tr,y_tr)
```

```
RandomForestClassifier
RandomForestClassifier()
```

```
y_p=rf.predict(x_t)
y_p1=rf.predict(x_tr)
```

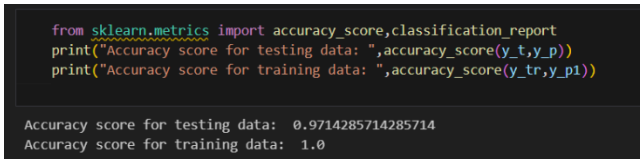
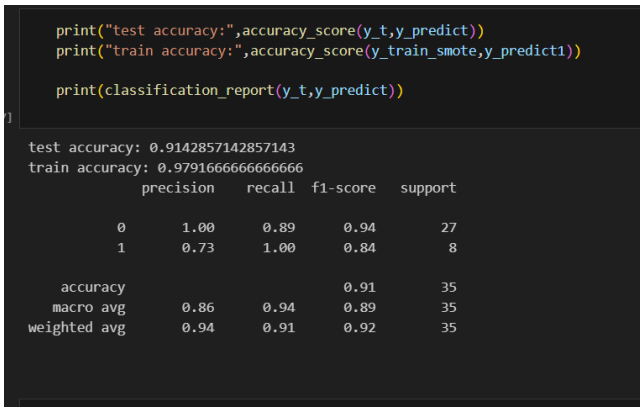
KNN Model:

Not Used

Support vector Machine Model:

Not Used

Model Validation and Evaluation Report:

Model	Classification Report	Accuracy	Confusion Matrix
Random Forest		97%	array([[26, 1], [0, 8]])
KNN		91%	array([[24, 3], [0, 8]])