

Crime Forecasting Report

Data Exploration and Preprocessing Steps

Loaded the dataset and converted the date column to datetime format. Extracted year, month, and day from the date. Dropped rows with missing values.

Model Development and Chosen Features

Selected features: ['x_coordinate', 'y_coordinate', 'year', 'month', 'day', 'dayofweek']. Split the data into training and testing sets. Developed a RandomForestClassifier model.

Evaluation of Model Performance

Accuracy: 0.8053513580862198

Confusion Matrix:

```
[[ 1   0 1443   43]
 [ 1  14 2735   63]
 [ 77 153 230537 6396]
 [ 20  13 45297 2143]]
```

Classification Report:

	precision	recall	f1-score	support
BURGLARY	0.01	0.00	0.00	1487
MOTOR VEHICLE THEFT	0.08	0.00	0.01	2813
OTHER	0.82	0.97	0.89	237163
STREET CRIMES	0.25	0.05	0.08	47473

Crime Forecasting Report

accuracy		0.81		288936
macro avg	0.29	0.26	0.24	288936
weighted avg	0.72	0.81	0.74	288936

Challenges Faced and Potential Improvements

Handled missing values by dropping rows. Future improvements could include handling missing values using imputation techniques.