Crime prediction and Analysis

→ Crime is the main issues which is growing continuously in intensity and complexity.

→ Crime types:

* Kidnapping
* Theft
* Murder
* rape etc.

→ Factors of Crime:

* Poverty
* Employment affects

Methodologies:

→ K - Neighbour Classifier
→ Support Vector Machine
→ Decision Tree classifier
→ Artificial Neural Networ.
⇒ Predictive Modelling

Regression

Classification.

Regression:

→ based on analysis of the relationship that are present btwn trends variables in order to make predictions about continuous variables.

Classification:

→ To assign a particular class labels to a data value as output of prediction.

⇒ Supervised Machine learning.

Data collection

↓

Data preprocessing

↓

Classification & Prediction

↓

Prediction

↓

Evaluation.

i) Data collection:

→ Information is gathered from many sources to develop a Machine learning Model. Eg: San Francisco city → kaggle.com

ii) Data preprocessing:

→ To remove the unfwite or null values from data which affects the performance of the Model.

→ Categorical attributes are converted into numeric value use Label Encoder.

iii) Training Models:

→ Data splitted ratio of 80% for training & 20% for testing. Using Sklearn.

iv Model Evaluation and Metrics.

Metrics Used → accuracy
→ fbeta-score
- precision

conclusion:

SVM - training time high } Not Suitable
MLP - Accuracy low }

Decision tree
KNN
Extra tree classifier } working best with optimal training and good accuracy.