CSE II YEAR SEPM PROJECT

CRIME DETECTION USING DATA MINING AND MACHINE LEARNING

IDENTIFY THE SOFTWARE PROJECT

Crime Detection Project using Data Mining and Machine Learning concepts such as K-Means Clustering Algorithms

BUSINESS CASE

Title : Detection Project using Data Mining

The Project :

- In this project, we are determining patterns of crime as well as intending to forecast, predict and thus detect the occurrence of crime in the future
- Various data classification as well as regression algorithms and models are deployed for this purpose

History :

- As crime rates keep spiraling each day, new challenges are faced by law enforcement agencies.
- They have to keep their forces on the lookout for any signs of criminal activity. This may only cause more burden on their resources.
- The law enforcement agencies should therefore be able to predict such increases or decreases or trends in crime, such as the approximate number of murders, rapes, thefts, or any such crimes that may occur in a particular area in a particular month, year, or any timespan, or, the overall number of crimes occurring in a country in a particular year in the future, or any other prediction or projection of future crime statistics.

Approach :

- Our system proposes to mine Crime Records and thus run appropriate algorithms on such data.

- This predicted output could also be presented to the user in the form of clusters using a data visualization algorithm like K-means clustering algorithm.
- The final end product could thus be a system where some future predictions would made by training crime data sets, and the output could be visualized in order to be simple to comprehend for the user.

Limitations :

- Dataset may be too small i.e., not enough information to get an accurate plotting or being able to apply ML algorithms.
- Dataset may not be clean i.e., has missing values, values in wrong columns, etc.
- Program may contain bugs.
- Lacks the human touch.

Benefits :

- Easier to find Crime Hotspots – likely areas where criminals appear.
- Better way to check reduction of crime using Regression Line plotting.
- Simpler and faster crime analysis

PROBLEM STATEMENT

Day by day the crime rate is increasing considerably. Crime cannot be predicted since it is neither systematic nor random, also the modern technologies and hi-tech methods help criminals in achieving their misdeeds. According to Crime Records Bureau crimes like burglary, arson etc. have been decreased while crimes like murder have been increased. Even though we cannot predict who all may be the victims of crime but can predict the place that has probability for its occurrence. The predicted results cannot be assured of 100% accuracy but the results shows that our application helps in reducing crime rate to a certain extent by providing security in crime sensitive areas. So for building such a powerful crime analytics tool we have to collect crime records and evaluate it.

Criminals are nuisance for the society in all corners of world for a long time now and measures are required to eradicate crimes from our world. Our mission is to offer crime prevention application to keep public safe. Current policing strategies work towards finding the criminals, basically after the crime has occurred. But, with the help of technological advancement, we can use

historic crime data to recognize crime patterns and use these patterns to predict crimes beforehand. We are using data mining techniques such as clustering algorithms to predict crime prone areas.

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