

Crime Analysis, Detection and Prediction in Smart City

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Abstract- Crime is most important factor in smart city. Different level of intensity and versatility is found in crimes day by day which results in great loss to society in terms of monetary loss, social loss and further it enhances the level of threat against the smooth livelihood in the society. To overcome this problem the computing era can help to reduce the crime or even may be helpful in predicting the crime so that sufficient measures can be taken to minimize the loss to property and life. The crime rate expectation methodologies can be connected on chronicled information accessible in the police records by looking at the information at different points like reason of crime, recurrence of similar kind of crimes at specific location with other parameters to prepare model the crime prediction also in proposed system Fake crime detection, Shows Shortest Distance route from current place to police station on map.

Keywords- Crime analysis, Cloud computing, Naive Bayes.

I. INTRODUCTION

Law enforcement agencies store information about reported crimes in many cities and this information is made publicly available in the spirit of open-data. This data typically has the type of crime (e.g., arson, assault, burglary, robbery, theft, and vandalism), as well as the time and location of the crime. Area wise crime detection system. It is the major challenge to understand the versatile data available with us then model it to predict the future incidence with acceptable accuracy and further to reduce the crime rate. Stop word Removal algorithm is used for searching purpose, Naive Bayes algorithm is used for classification of crime and K-Nearest Neighbour (KNN) for finding shortest distance on map. In our system we identify

fake crime, shows Shortest Distance route from current place to police station on map Patterns in crime and the effect of law enforcement policies on the measure of wrongdoing in a district can be considered utilizing this information with the objective of lessening crime.

II. LITERATURE SURVEY

1. Crime analysis in Chicago city

Security has consistently been one of the most noteworthy concerns. Government and security organizations are striving to avert crimes and ensure their kin. In any case, challenge of managing enormous measure of information has turned into a noteworthy issue for all associations. Along these lines, a crime data framework that can procedure huge measure of information in a brief timeframe is required for agents to know violations hotspots, crime designs and to foresee future ones. This paper gives plan of Crime Data Information System. Information pre-processing is done in Crime Database and two methodologies for crime examination is performed. These two methodologies are analysed, and results are affirmed with ground truth.

2. Identity Crime Detection using Data Mining

Character Crime Detection utilizing the idea of flexibility is a multi-layered information mining based way to deal with secures the private data of candidates applying for charge cards. This examination depends on three ideas strength by giving numerous security layers, quality information by killing constant blunders and adaptively by recognizing lawful and extortion conduct. Aside from these power drivers, this application additionally has certain restrictions. By and by, the CD and SD calculations can look on enormous moving window, bigger number of traits and number of connection types, along these lines devouring

essentially bigger measure of time for the framework to produce results. Also, even after standard update of the calculations, the assessment is definitely not a genuine one as aggressors don't get time to change their strategy because of the calculations as it would have been whenever sent progressively. From now on, the idea of adaptivity isn't appropriately illustrated. Hence, the future extension can be stretched out in lessening these impediments.

3. Time, Place, and Modus Operandi: A Simple Apriori Algorithm Experiment for Crime Pattern Detection

Given the quick paced nature of current police work, the improvement and utilization of cutting edge information digging apparatuses for crime investigation can play a basic factor in relieving future mischief and assisting with crime avoidance. This paper means to take care of the issue of recognizing potential sequential culpable examples utilizing already underutilized qualities from police recorded crime information. To accomplish this crime information handling strategy is suggested that concentrates three factors in police recorded crime occasion information: (1) time; (2) setting; and (3) modus operandi way of doing things. Every crime occasion quality is displayed utilizing the Apriori calculation, normally utilized for regular thing set mining and affiliation standard gaining from complex datasets. Results from the model propose that Apriori can recognize critical affiliations and hence can feature crime example patterns settled inside more extensive police-recorded crime databases, which could prompt more successful police reactions than presently offered by means of conventional diagnostic strategies.

4. Crime pattern detection, analysis & prediction

Crime are a social aggravation and cost our general public profoundly in a few different ways. Any examination that can help in explaining crimes rapidly will pay for itself. About 10% of the lawbreakers carry out about half of the crimes. The framework is prepared by sustaining earlier year's record of crimes taken from genuine online entrance of India posting different violations, for example, murder, hijacking and kidnapping, dacoits, theft, thievery, assault and other such violations. According to information of Indian insights, which gives information of different crime of recent years (2001-2014) a relapse model is made and the crime rate for the next years in different states can be anticipated. We have utilized supervised, semi-

supervised and unsupervised learning technique on the crime records for information revelation and to help in expanding the prescient exactness of the crime. This work will be useful to the nearby police headquarters in crime concealment.

5. Crime Analytics: Analysis of Crimes Through Newspaper Articles

Crime investigation is one of the most significant exercises of most of the insightful and law requirement associations everywhere throughout the world. For the most part they gather residential and outside Crime related information (knowledge) to forestall future assaults and use a predetermined number of law requirement assets in an ideal way. A noteworthy test looked by the majority of the law requirement and knowledge associations is effectively and precisely investigating the developing volumes of crime related information. The tremendous geological assorted variety and the multifaceted nature of crime examples have made the investigating and recording of crime information progressively troublesome. Information mining is an integral asset that can be utilized adequately for investigating huge databases and determining significant explanatory outcomes. This system exhibits a keen crime investigation framework which is intended to beat the previously mentioned issues. The proposed framework is an online framework which contains crime investigation systems, for example, hotspot identification, crime examination and crime design representation. The proposed framework comprises of a rich and rearranged condition that can be utilized successfully for procedures of crime investigation.

6. IST: Role of GIS in crime mapping and analysis

In latest years crime investigation has turned into a wide range term that needs a great deal of research on crime examination and crime mapping. Crime mapping and spatial investigation backups every one of them and assumes a vital job in the inherently new type of crime portrayal, perception and to react attractively to the issue of guiltiness. This research mixes blends statistical methods (cluster analysis) and spatial models made with GIS, built up on police crime reports. This system puts on the assorted utilities of GIS to perceive the hot spots of crime not withstanding support the progression of examination tendency technique for policing. The useful approach in the present examination for crime mapping can be effectively connected for development of UIs arrange for the progression of safe city techniques.

III. EXISTING SYSTEM APPROACH

Critical resources in these smart cities will be more rapidly deployed to regions in need, and those regions predicted to have an imminent or prospective need. For example, crime data analytics may be used to optimize the distribution of police, medical, and emergency services. Existing system work on crime analysis of data in USA city with the help of different parameters. In this system does not any work on Fake crime identification and block the crime reporter. To find out shortest distance route on map for police station for crime investigations.

IV. SYSTEM ARCHITECTURE

In a system architecture mainly includes Admin, User, Crime reporter and Police module. In Proposed system authenticate crime reporter add different types of crime according to category. Admin can check the crime is fake or not. If any crime reporter add any fake crime first time admin send warning to that crime reporter and if again add fake crime by that reporter then system can block that crime reporter. Users can search crime wise as well as area wise. System suggests using KNN algorithm, shortest distance of route to user. View shortest distance route on map for police station. Police also view the crimes and do investigation. Using cloud system we can access anywhere and anytime.

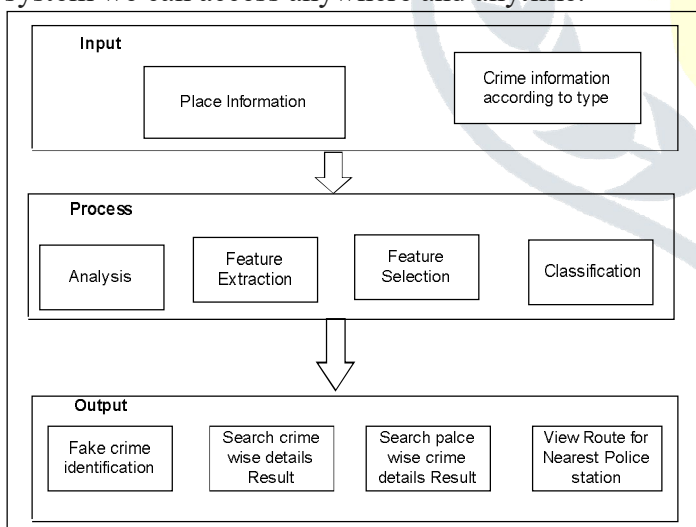


Fig.4.1 System Architecture

In proposed system, Stop word Removal algorithm is used for searching purpose, Naive Bayes algorithm is used for classification of crime and K-Nearest Neighbours (KNN) for finding shortest distance on map. A stop word is a commonly used word that (the,

is, a, about, more etc.) a search engine has been programmed to ignore, both when indexing entries for searching and when retrieving them as the result of a search query. This algorithm is used in search engine, Natural language processing (NLP). Using stop word removal algorithm user search the crime or user search place wise crime. Using this algorithm we can classified the crime according to category after classification we predict crime category. Euclidean distance is the straight line distance between two points. Euclidean space becomes a metric space. This algorithm is used for finding optimal distance on map.

V. CONCLUSION

A crime is a deliberate act that causes physical or psychological harm, damage to or loss of property, and is against the law. Now a day's crime is increase rapidly. In this system proposed this developed system for smart city. we The result is great loss to society in terms of monitory loss, social loss and further it enhances the level of threat against the smooth livelihood in the society. To overcome this problem the computing era can help to reduce the crime or even may be helpful in predicting the crime so that sufficient measures can be taken to minimize the loss to property and life. The crime rate prediction strategies can be applied on historical data available in the police records by examining the data at various angles like reason of crime, frequency of similar kind of crimes at specific location with other parameters to prepare model the crime prediction also in proposed system Fake crime detection, Shows Shortest Distance route from current place to police station on map. With the help of cloud we can easily access the system form anywhere in the world.

VI. REFERENCES

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