[1]

Abstract— In the recent past, crime analyses are required to reveal the complexities in the crime dataset. This process will help the parties that involve in law enforcement in arresting offenders and directing the crime prevention strategies. The ability to predict the future crimes based on the location, pattern and time can serve as a valuable source of knowledge for them either from strategic or tactical perspectives. Nevertheless, to predict future crime accurately with a better performance, it is a challenging task because of the increasing numbers of crime in present days. Therefore, crime prediction method is important to identify the future crime and reduces the numbers of crime. Currently, some researchers have been conducted a study to predict crime based on particular inputs. The performance of prediction models can be evaluated using a variety of different prediction methods such as support vector machine, multivariate time series and artificial neural network. However, there are still some limitations on their findings to provide an accurate prediction for the location of crimes. A large number of research papers on this topic have already been published previously. Thus, in this paper, we thoroughly review each of them and summarized the outcomes. Our objective is to identify current implementations of crime prediction method and the possibility to enhance it for future needs. Keywords—crime analysis; crime prediction; prediction methods

The crime analysis is sensitive domain where efficient for prediction and classification to analyze the increasing numbers of crime data. Hence, the crime prediction methods will be evaluated and analyzed by the systematic tool in crime analysis. The biggest challenge facing by many law enforcement is how to efficiently and accurately analyzing the increasing volumes of crime data. This research work focuses on reviewing a crime prediction analysis tool for many scenarios using particulars crime prediction methods that can help law enforcement to efficiently handle crime incidents. Therefore, a crime analysis should be able to identify the crime patterns as fast as possible and in an effective manner for future crime detection. Using a wide range of methods such as artificial neural network, fuzzy or support vector machine, it is possible to find helpful information to help in crime prediction problems. To our knowledge, there is no standard method that can solve the problems in different datasets of crime. In this paper, we report on result of an extensive comparison of crime prediction methods. Furthermore, for future research, we propose to expand this study to enhance the crime prediction methods in order to resolve the limitation of current methods to obtain more accurate result and good performance.

[18]

he basic meaning of crime against women is direct or indirect mental or physical torture or cruelty towards women. Crime against women is increasing every year and as per the research they have doubled over the past ten years, according to latest data released by the NCRB (National Crime Records Bureau). As many as 2.24 million approx. crimes were reported against women over the past decade. On an average 25 crime per hour against women are reported, at least a complaint every two minutes. To control crime, the eyes have to be set on the factors which are influencing the crime against women. For this consideration there are various factors affecting the crime against women. In this paper factors are identified for crime against women. The impact of the individual factor has been checked for the overall crime rate in Delhi on the basis of regression analysis using SPSS tool and thereafter K-means clustering technique has been applied to classify the respondents or cases into clusters on the basis of degree of crime rate for various factors influencing the crime against women.

[17]

There has been an enormous increase in the crime in the recent past. Crime deterrence has become an upheaval task. The cops in their role to catch criminals are required to remain convincingly ahead in the eternal race between law breakers and law enforcers. One of the key concerns of the law enforcers is how to enhance investigative effectiveness of the police. There is need for user interactive interfaces based on current technologies to give them the much needed edge and fulfil the new emerging responsibilities of the police. The paper highlights the existing systems used by Indian police as e-governance initiatives and also proposes an interactive query based interface as crime analysis tool to assist police in their activities. The proposed interface is used to extract useful information from the vast crime database maintained by National Crime Record Bureau (NCRB) and find crime hot spots using crime data mining techniques such as clustering etc. The effectiveness of the proposed interface has been illustrated on Indian crime records. An interactive interface as crime analysis tool has been designed for this purpose.

In this paper, a interactive interface as crime analysis tool for CCIS based on the current decision support and data mining techniques has been proposed in order to carrying out police activities efficiently. The proposed crime analysis tool will provide an upper edge and with the use of the crime analysis tool policing can be made effective, fast and responsible in their operation. The successful implementation of the proposed crime analysis tool for India crime records depicts the utility of the tool. The effectiveness of proposed crime analysis tool has also been illustrated for crime hot spot analysis. The proposed crime analysis tool for CCIS is faster to implement and easier to use. The crime analysis tool can be integrated with latest visualization techniques such as Geographical Information System for enhancing the understanding of the results and patterns. The tool has very promising use in the current changing scenario and provides an effective tool to law enforcement agencies for crime detection and crime prevention. Hence, the proposed crime analysis tool has wider variety of application for enforcement of laws.

[13]

Crime is an act that violates the law. The number of criminal acts that occur becomes a social problem that makes the community and the police uneasy. Increasing the number of crimes is a problem in the social aspect. This research aims to build an information system to provide information on areas prone to a crime that can help the police to speed up the crime resolution process. The grouping process uses the k-means method used to classify based on the level of vulnerability of the area, grouping crime is a good strategy in improving crime prevention planning. In addition to the k-means clustering method, we also use the weighted product method which functions as a recommendation ranking for crime selection. The grouping results obtained from this study are that there is 1 very vulnerable area, 5 areas in the vulnerable category and 3 safe areas. While the weighted product method produces melatilor kudus city 'as a prone to beating areas with a score of 0.182093.

[12]

Crimes will somehow influence organizations and institutions when occurred frequently in a  
society. Thus, it seems necessary to study reasons, factors and relations between  
occurrence of different crimes and finding the most appropriate ways to control and avoid  
more crimes. The main objective of this paper is to classify clustered crimes based on  
occurrence frequency during different years. Data mining is used extensively in terms of  
analysis, investigation and discovery of patterns for occurrence of different crimes. We …

[20]

Abstract—Crimes will somehow influence organizations and institutions when occurred frequently in a society. Thus, it seems necessary to study reasons, factors and relations between occurrence of different crimes and finding the most appropriate ways to control and avoid more crimes. The main objective of this paper is to classify clustered crimes based on occurrence frequency during different years. Data mining is used extensively in terms of analysis, investigation and discovery of patterns for occurrence of different crimes. We applied a theoretical model based on data mining techniques such as clustering and classification to real crime dataset recorded by police in England and Wales within 1990 to 2011. We assigned weights to the features in order to improve the quality of the model and remove low value of them. The Genetic Algorithm (GA) is used for optimizing of Outlier Detection operator parameters using RapidMiner tool.

This project focuses on crime analysis by implementing clustering algorithm on crime dataset using rapid miner tool and here we do crime analysis by considering crime homicide and plotting it with respect to year and got into conclusion that homicide is decreasing from 1990 to 2011 .From the clustered results it is easy to identify crime trend over years and can be used to design precaution methods for future From the encouraging results, we believe that crime data mining has a promising future for increasin the effectiveness and efficiency of criminal and intelligence analysis. Visual and intuitive criminal and intelligence investigation techniques can be developed for crime pattern. As we have applied clustering technique of data mining for crime analysis we can also perform other techniques of data mining such as classification. Also we can perform analysis on various dataset such as enterprise survey dataset, poverty dataset, aid effectiveness dataset, etc.

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Abstract— As crime rates keep spiralling 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. First, our system proposes to extract data from crime record repositories, on which we intend to perform data mining. Data classification and regression algorithms then help in forecasting and predicting this is proposed to be done by first training a set and then applying the learned rules on the test set in order to determine the predicted output. Using this, law enforcement agencies can better understand how the crime pattern across a certain region, or interval of time is, and using this data, such agencies can take proactive action to stem the rise of particular crimes in particular regions, or during particular times. This would save them a lot of time, money and effort. Our system proposes to mine this data 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 endproduct 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. Keywords— Data mining, crime, prediction, algorithm

In today’s world, where the average quantity of data that a person handles has been increasing by leaps and bounds over the past few years, the utilization of data mining techniques in order to extract useful information from the huge amounts of raw data becomes important. This project mines the huge amounts of raw data by first generating it in the form of a dataset and then preprocessing it. The various data mining techniques, algorithms and models mentioned when applied on such datasets produces results which could be of great potential use to law enforcement agencies especially. In conclusion thus, we hope that this project performs its functions well, and works with the highest efficiency possible, and that it surely proves to be a boon to law enforcement agencies. International Journal of Engineering Research & Technology (IJERT) http://www.ijert.org ISSN: 2278-0181 IJERTV5IS010610 (This work is licensed under a Creative Commons Attribution 4.0 International License.) Published by : Vol. 5 Issue 01, January-2016 895 The functionalities of this project can be scaled up in the future. These functionalities could be: •Real-time data analysis of crime data: This could help us obtain crime patterns and forecasts of the future instantly using real-time datasets. •Data mining of social media to generate datasets, and then preprocess and analyse them to spot trends of the current crime situation in a particular place or region. •Compare and display the results of all available and applicable forecasting, predicting and classification models side by side, such that the user can select any of those methods.

[22]

**Abstract:**

In this paper, we are examining and analyzing human behavior model throughout reality data sources to extract patterns and clues of criminal and suspicious acts. Reality data composed of the digital traces people leave while interacting with computing devices. In this paper, we are focusing on data from people's interaction with social networks and mobile usage such as location markers and call logs. This work also introduces a model for detecting suspicious behavior based on social network feeds. It is based on classification model that can categorize a set of input actions and movements into three types of behavior, criminal, suspicious, or normal. The proposed system is expected to help crime analysts create faster and precise decisions.The model is expected to provide a behavior profile to help crime analysts in the process of crime prevention, understanding crime motivations, and proactive policing.