



CRIME ANALYSIS AND PREDICTION SYSTEM FOR WOMEN USING MACHINE LEARNING

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Abstract: Crime against women is one of the dangerous aspects of our society which is growing continuously in intensity and complexity. The primary objective of this project is to distinguish various crimes using clustering techniques based on the occurrences and regularity. This project mainly focuses on machine learning in pattern recognition for analysis of patterns through Indian states for crime against women. In this project, the crime data is classified using the K-means clustering algorithm. In this there would be a concept of clustering methodology along with machine learning algorithms like cleaning the dataset, clustering the performance of each algorithm is analysed and the best algorithm is found out which is having maximum accuracy of crime detection. The basic aim to provide with online application that could generate a quick and analysed view of crime against women scenario in India.

Index Terms – k-means, random forest, dataset, classification, random forest, linear regression

I. INTRODUCTION

India's criminal activity is skyrocketing at an alarming rate. They have experienced a lot of expansion and progressed toward success over the past few years, and India is one of them. One of the nations that has attempted to strike a balance between their culture and advancement is India. On one hand, we Indians pray for women and, on the other, we try to silence their voices. The assertion is supported by the recent rise in the number of crimes committed against women. In a nation where the economy is doing well and growing in every state and industry. Regardless of this, there has been a tremendous expansion in the quantity of violations against ladies. One in three women worldwide are victims of some form of crime at least once in their lifetime, according to the WHO report on violence against women, which was released on November 29, 2017. Therefore, if we examine the statistics, you typically look after the girl with this around the age of 35 and are primarily assisted by their partners or knowns.



II. EXISTING SYSTEM

Through expanding violations, rule implementations organization remain proceeding towards request propelled frameworks and new ways to deal with improving wrongdoing investigation and better ensure their networks. Crime type stands progression

intentions towards classify law-breaking individualities. Exploration measured improvement in wrongdoing expectation model utilizing Rule Based Decision Tree (RBDT J48) calculation and Naïve bayes since it has been considered as the most effective AI calculation for a

forecast of wrongdoing information. a Rule Based Decision Tree J48 (RBDT J48) utilizing Weka tool in addition prepared pre- handled wrongdoing records. Since exploratory outcomes of proposed algorithm Rule Based Decision Tree J48 calculation anticipated the obscure class of wrongdoing information to the exactness of and other Naïve Bayesian precision. The correlation between two grouping calculations in particular RBDT J48 and Naïve Bayesian aimed at anticipating wrongdoing type quality consuming names, in particular Low, Medium and High.

III. PROPOSED SYSTEM

The aim of the project is to make crime predictions using the features present in the data set. The dataset is extracted from the official websites with the help of machine learning algorithms using python as core we can predict the type of crime that occurring a particular area. The objective would be trained a model for prediction the training would be done using the training data set which will be validated using the test data set. Building the model will be done using a better algorithm depending upon the accuracy. The k-means clustering and a few classification algorithms will be used for the crime prediction. Visualization of the data set is implemented in order to analyse the crimes which may have occurred in the particular state. This work helps the law enforcement agencies to predict and detect crimes in India with improved accuracy and thus reduces crimes

IV. IMPLEMENTATION

Our system can be implemented as the following diagram



FIGURE 2: Use Case Diagram

V. MODELLING

The main focus of modeling of crime is to minimize the spread of crime and to reduce the criminal population as much as possible

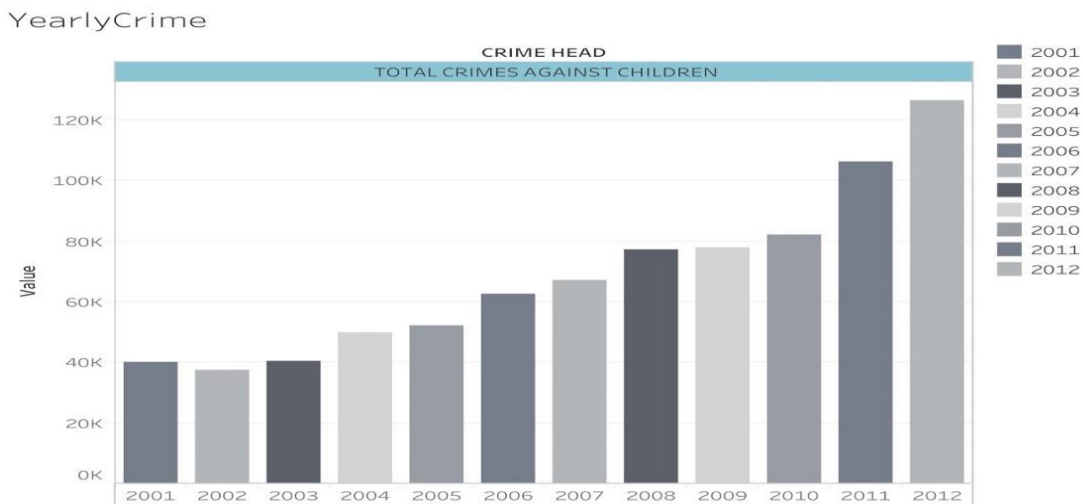


FIGURE 3: representation o crime analysis

V. RESULTS

It contains tools for data pre-processing, classification, regression. The implementation of this algorithm has classified the crime data based on the dataset attributes in different areas where the occurred where the number of correctly classified instance, the accuracy or precision and recall have the highest values compared to other algorithms of data mining methods.

VI. CONCLUSION

Crime prediction intends to reduce crime occurrences. It does this by predicting which type of crime may occur in future. Here, analysis of crime and prediction are performed with the help of various approaches. From the results obtained we saw that the training time of SVM is very high thus it should be avoided for this dataset. However which model will work best is totally dependent on the dataset that is being used.

In this system, we get to classify and cluster to improve the accuracy of location and pattern-based crimes. This software predicts frequently occurring crimes, especially for particular state, and occurrences.

VII. REFERENCES

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