ABSTRACT

Crime analysis and prevention is a systematic approach for identifying and analyzing patterns and trends in crime. Our system can predict have high probability for crime occurrence in a region.Using the concept of Machine Learning we can extract previously unknown, useful information from an structured data. The main scope of the project is to predict the crime rate in a particular region based on the historic data and visualize it graphically using statistical tools so that, it is easy to look and understand the data to support public safety, financial success and better outcomes.With the advent of the Big Data era and the availability of fast, efficient algorithms for data analysis, understanding patterns in crime from data is an active and growing field of research. This project presents the visualization techniques and classification algorithms that can be used for predicting the crimes and helps the law agencies. So,we thought of building the machine learning model and with minimum accuracy of 85% and data visualizations so that, it could give accurate predictions.

In this project, we will be using the technique of machine learning for crime prediction of Los Angeles crime data set.These are the steps followed in Crime Analysis :Data collection, Data cleaning, Data handling, Predictive modeling ,Model selection, Prediction, Visualization, Conclusion.

Implementing data cleaning, analyzing correlation the accuracy rate is reached to 85% with Decision tree classifier and 0.65 R2 score with Linear Regression.To increase the previous accuracy rate tensor-flow GPU is used and Decision tree classifier algorithm is optimized. This made performance high in our project i.e., 90.97744360902256% accuracy.

In future, there is a plan for applying other classification algorithms on the crime data and improving the accuracy in prediction.