

## Design and Implementation of an Effective Machine Learning Approach to Crime Prediction and Prevention

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**Abstract :** Today, it is believed that crimes have the greatest impact on a person's ability to progress financially and personally. Identifying places where individuals shouldn't go is crucial for preventing crimes and is one of the key considerations. As society and technologies have advanced significantly, so have crimes and the harm they wreak. When there is a concentration of people in one place and changes happen quickly, it is even harder to prevent. Because of this, many crime prevention strategies have been embraced as a component of the development of smart cities in numerous cities. However, crimes can occur anywhere; all that is required is to identify the pattern of their occurrences, which will help to lower the crime rate. In this paper, an analysis related to crime has been done; information related to crimes is collected from all over India that can be accessed from anywhere. The purpose of this paper is to investigate the relationship between several factors and India's crime rate. The review has covered information related to every state of India and their associated regions of the period going in between 2001- 2014. However various classes of violations have a marginally unique scope over the years.

**Keywords :** K-nearest neighbor, random forest, decision tree, pre-processing

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