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Forecasting Rate of Crime Using Machine Learning

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Abstract: *Criminalities and predicting are indispensable when it comes to crime identification and prevention, and recognition of areas with a high probability of criminal occurrences, as well as simulation of crime scenes. Finally, and based on the methods of data mining, patterns can be obtained from large amount of unstructured data that can help in predicting future crimes. Crime is still a social issue that impacts the population on all the main aspects including quality of life, economic growth, and image of the nation, and thus, calls for more elaborate and effective systems and strategies for the safety of the population. With the help of the DM techniques proposed below, the goal is to design a system that is capable of identifying, studying, and these predicting types of crimes in certain areas. In particular, the current paper focuses on the methodological approaches of crime analysis and crime forecast. Thus, this work examined temporal and spatial features of crime to establish patterns and trends necessary to predict subsequent occurrences. Classification, clustering and association rule mining are utilized mainly in crime data classification process, in order to make distinctions and identify relationships between certain crime characteristics. Quantitative methods of analysis which include regression analysis, decision trees and artificial neural networks forecast future formulations of criminal incidences*

Keywords: Crime Analysis, Decision Trees, Machine Learning, Regression Analysis

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