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A Mobile Application for Analyzing and Forecasting Crime Using Autoregressive Integrated Moving Average with Artificial Neural Network

Authors : Gajaanuja Megalathan, Banuka Athuraliya

Abstract : Crime is one of our society's most intimidating and threatening challenges. With the majority of the population residing in cities, many experts and data provided by local authorities suggest a rapid increase in the number of crimes committed in these cities in recent years. There has been an increasing graph in the crime rates. People living in Sri Lanka have the right to know the exact crime rates and the crime rates in the future of the place they are living in. Due to the current economic crisis, crime rates have spiked. There have been so many thefts and murders recorded within the last 6-10 months. Although there are many sources to find out, there is no solid way of searching and finding out the safety of the place. Due to all these reasons, there is a need for the public to feel safe when they are introduced to new places. Through this research, the author aims to develop a mobile application that will be a solution to this problem. It is mainly targeted at tourists, and people who recently relocated will gain advantage of this application. Moreover, the Arima Model combined with ANN is to be used to predict crime rates. From the past researchers' works, it is evidently clear that they haven’t used the Arima model combined with Artificial Neural Networks to forecast crimes.

Keywords : arima model, ANN, crime prediction, data analysis
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