Integrated Economy and Society: Diversity, Creativity, and Technology
16–18 May 2018
Naples • Italy

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TIIM

Management, Knowledge and Learning
International Conference 2018
Technology, Innovation and Industrial Management

# CRIME PREDICTION AND PREVENTION (CPP) IN USA, BASED ON USA CRIMINAL DATA OF 2007

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**Abstract:**
Crime prediction and prevention is a systematic approach to identifying and analyzing patterns and trends in crime. This work can predict which population size has a high probability of crime occurrence and what kind of crime occurs in these populated areas. With the advent of computerized systems, crime data analysts can help Law enforcement officers to speed up the process of solving crimes and deploying the necessary resource effectively at the right time. Using the concept of data mining techniques we can extract previously unknown, useful information from datasets. In this work, Apriori algorithm is used to analyze the USA Criminal Data Of 2007 dataset. The algorithm was implemented on a total of 8660 records and 9 attributes, with a confidence and support of 15% and 90% respectively, the algorithm generated 10 best patterns. From these patterns, it is concluded that crimes which occurred at high population density and low population density were identified. In addition, crimes that frequently occurred together are also identified, and if these two crimes occur together the crime that comes next is also identified. The result revealed a new perspective for the security officers and the society to either prevent or predict the crimes by deploying Apriori algorithm or associative rules algorithms. On the other hand, instead of focusing on causes of crime occurrence like the criminal background of the offender, political enmity and etc., this work presented that focusing mainly on crime patterns, and population size can determine the likelihood of crime that is going to happen.

*Keywords: Criminal Data, Data Mining, Apriori Algorithm, USA*