Improved method of classification algorithms for crime prediction

ABSTRACT

The growing availability of information technologies has enabled law enforcement agencies to collect detailed data about various crimes. Classification is the procedure of finding a model (or function) that depicts and distinguishes data classes or notions, with the end goal of having the ability to utilize the model to predict the crime labels. In this research classification is applied to crime dataset to predict the 'crime category' for diverse states of the United States of America (USA). The crime data set utilized within this research is real in nature, it was gathered from socio-economic data from 1990 US census. Law enforcement data from 1990 US LEMAS survey, and from the 1995 FBI UCR. This paper compares two different classification algorithms namely - Naïve Bayesian and Back Propagation (BP) for predicting 'Crime Category' for distinctive states in USA. The result from the analysis demonstrated that Naïve Bayesian calculation out performed BP calculation and attained the accuracy of 90.2207% for group 1 and 94.0822% for group 2. This clearly indicates that Naïve Bayesian calculation is supportive for prediction in diverse states in USA.

Keyword: Algorithms; Crime category; Crime prediction; Feature selection; Pre-processing