Predicting Crime: The Interface between Data Mining and Criminology

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***Abstract*:**

Background

Technological progress in processing and analyzing large databases are influencing the way criminologists deal with concentrations of crime. Until recently police services based their actions to reduce crime on hotspot analyses, which can be observed as crime pictures of the past. Today, criminologists and police services are starting to experiment with data mining techniques such as predictive analyses, which can be observed as crime predictions in time and space.

Aim

In this study we want to focus on the opportunities and pitfalls of predictive analysis to reduce crime, the effectiveness of existing applications, the types of crime for which this technique can be used, the conditions of the database and the data modeling process.

Method

This study made use of (1) a literature review, (2) field observations, (3) interviews with experts, (4) datamining techniques, and (5) focus groups.

Results

Pros and cons of different predictive analysis applications are discussed, predictions for different types of crime are compared, and several datamining techniques are considered. The study gives a clear picture of the opportunities of big data analyses for criminology.

Keywords: *predictive analysis, data mining, big data, criminology, police*