Crime Detection and Prevention using Social Network Analysis

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Abstract

A society is built of individuals and group of individuals make organization. These individuals or organizations are also called as nodes. A structure that consist these nodes and relation between these nodes is known as social networking. We all are surrounded by networks and plays an important role of individual unit in a network of different kinds of social relationships, biological systems. In current scenation social networking and blogs are the most popular kind of online activities. Usage of social networks are much more than personal emails. Facebook, Twitter & LinkedIn are some of the well-known examples of Social networking. It is the analysis of how social groups communicate & connect to each other & affect important features. Social network analysis is not just analysis of an individual, but it is the study of group of individual and relation between them. Social Network Analysis is current emerging area of importance in finance, politics, defense and security. Prediction of missing links & links that can occur in future between notes in social network is an attention holding topic. It is of interest that Fuzzy system analysis can make more significant & correct predictions.
There are many methods to depict knowledge in the field of soft computing. But the most common way to portray the human understanding is with the help of natural language expression also called fuzzy rule-based system. With the help of this rule based form if we aware of information, then we can drive another information called as conclusion. Fuzzy system is used to identify the trait of an individual. We take five different characteristics like economical status, family background, educational level, alcoholic & drug addict and criminal history. All of these Characteristics of an individual are mapped with the help of fuzzification & de-fuzzification techniques to obtain a de-fuzzification value. These values help to identify the criminal phycology of a person. Each value is then assigned a colour. Colours are in given order starting from highest criminal level to lowest: Dark Red, Red, Light Red, Orange, Yellow, White, and Green. When all the node gets its appropriate colour, we analyse the interaction between the nodes and reassign a colour to a node if its activities in not appropriate according to the characteristic values provided by the user or if a person is interaction with someone who is already placed in some other category. For this re-analysis we again use fuzzy system techniques.

References


Index Terms

Computer Science  Security
Keywords

Social network analysis, Crime detection, Fuzzy rules, Network models, Synchronization process.