Clustering of Association Rules of ISIS & Al-Qaeda Based on Similarity Measures

Authors : Tamanna Goyal, Divya Bansal, Sanjeev Sofat

Abstract : In world-threatening terrorist attacks, where early detection, distinction, and prediction are effective diagnosis techniques and for functionally accurate and precise analysis of terrorism data, there are so many data mining & statistical approaches to assure accuracy. The computational extraction of derived patterns is a non-trivial task which comprises specific domain discovery by means of sophisticated algorithm design and analysis. This paper proposes an approach for similarity extraction by obtaining the useful attributes from the available datasets of terrorist attacks and then applying feature selection technique based on the statistical impurity measures followed by clustering techniques on the basis of similarity measures. On the basis of degree of participation of attributes in the rules, the associative dependencies between the attacks are analyzed. Consequently, to compute the similarity among the discovered rules, we applied a weighted similarity measure. Finally, the rules are grouped by applying using hierarchical clustering. We have applied it to an open source dataset to determine the usability and efficiency of our technique, and a literature search is also accomplished to support the efficiency and accuracy of our results.

Keywords : association rules, clustering, similarity measure, statistical approaches
Conference Title : ICCTHS 2016 : International Conference on Counter Terrorism and Human Security
Conference Location : Zurich, Switzerland
Conference Dates : July 21-22, 2016