



Título: Node centrality-based feature selection method for Predicting Potential Tax Fraudsters based on Taxpayer Information.

Data: 15/09/2016 Horário: 16h Local: Sala de Seminários do Bloco 952

Resumo:

This research presents a novel feature selection algorithm based on the complex network technique, using association rules to predict potential tax fraudsters. The main idea of the proposed algorithm is to find the features that are based on the degree distribution of the graph of association rules, which follows a power law in the datasets we have used in our experiments. Thus this scenario represents a typical complex network that offers opportunities to explore its topology, such centrality measure. Nowadays fiscal evasion is a major obstacle for the economy of developing countries. In conjunction with a Brazilian fiscal agency we developed new method that aims to mitigate fiscal evasion. Our algorithm generates a graph that represents the relationships among Association Rules mining process of fraud indicators. The selected set of features allows fraudster classification performed by a support vector machine (SVM) yielding F-measure up to 80.19%. Experimental results were conducted and showed that our proposed algorithm overcomes thirteen traditional methods of feature selection in classifying taxpayers. This difference reaches 227% when compared with the best f-measure results found in the compared strategies.

Banca:

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