Abstract

Financial fraud is increasing significantly with the development of modern technology and the global superhighways of communication, resulting in the loss of billions of dollars worldwide each year. The companies and financial institution loose huge amounts due to fraud and fraudsters continuously try to find new rules and tactics to commit illegal actions. Thus, fraud detection systems have become essential for all credit card issuing banks to minimize their losses. The most commonly used fraud detection methods are Neural Network (NN), rule-induction techniques, fuzzy system, decision trees, Support Vector Machines (SVM), Artificial Immune System (AIS), genetic algorithms, K-Nearest Neighbor algorithms. These techniques can be used alone or in collaboration using ensemble or meta-learning techniques to build classifiers. This paper presents a survey of various techniques used in credit card fraud detection and evaluates each methodology based on certain design criteria. And this survey enables us to build a hybrid approach for developing some effective algorithms which can perform well for the classification problem with variable misclassification costs and with higher accuracy.
Analysis on Credit Card Fraud Detection Techniques: Based on Certain Design Criteria

References

- Joseph King-Fung Pun (2011). "Improving Credit Card Fraud Detection using a Meta-Learning Strategy." A thesis submitted in conformity with the requirements for the degree of Master of Applied Science Graduate Department of Chemical Engineering and Applied Chemistry University of Toronto.
Analysis on Credit Card Fraud Detection Techniques: Based on Certain Design Criteria

- Manoel Fernando, Xidi Wang, Alair Pereira do Lago (201). "Comparison with Parametric Optimization in Credit Card Fraud Detection.”
- Peter J. Bentley, Jungwon Kim, Gil-Ho Jung and Jong-Uk Choi (2000). "Fuzzy Darwinian Detection of Credit Card Fraud," In the 14th Annual Fall Symposium of the Korean Information Processing Society; (1-4).
- Shifei Ding • Hongjie Jia • Jinrong Chen • Fengxiang Jin (2012). "Granular neural networks". Springer Science+Business Media B. V.
- Tan, P. N., Steinbach, M, And Kumar. V (2005). "Introduction to Data Mining".
- Tatsuya Minegishishi, Ayahiko Niiimi (2011). "Proposal of Credit Card Fraudulent Use Detection by Online-type Decision Tree Construction and Verification of Generality".
International Journal for Information Security Research (IJISR), Volume 1, Issue 4; (229-235).


Index Terms

Computer Science

Security
Keywords
credit card fraud   fraud detection