Abstract

Credit Card Fraud is one of the biggest threats to business establishments today. This paper presents a cascade artificial neural network for the recognition of credit card fraud detection. This system aims at attaining a very high recognition rate and a very high reliability. In other words, excellent recognition performance of credit card fraud detection was obtained. Then, one solution was proposed: utilizing a cascade artificial neural networks for enhancing recognition rate and reducing rejection rate. The gating networks (GNs) are used to congregate the confidence values of three parallel artificial neural networks (ANNs) classifiers. The Imperialist Competitive Algorithm (ICA) is a new evolutionary algorithm which was recently
introduced and has a good performance in some optimization problems. The weights of the GNs are trained by the Imperialist Competitive Algorithm (ICA) to achieve the overall optimal performance. The experiments conducted on the database from a large Brazilian bank produced encouraging results: high accuracy of 98.56% with minimal rejection in the last cascade layer.

References

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Credit Card Fraud Detection with a Cascade Artificial Neural Network and Imperialist Competitive Algorithm

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Index Terms

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Keywords

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