Investigation of Credit Card Fraud Recognition Techniques based on KNN and HMM

Abstract

Popular payment mode accepted both offline and online is credit card that provides cashless transaction. It is easy, convenient and trendy to make payments and other transactions. Demonetization process operated by India’s Prime Minister Narendra Modi seems to be taken major changes in cashless economy. Credit card fraud is also growing along with the development in technology. It can also be said that economic fraud is drastically increasing in the global communication improvement. It is being recorded every year that the loss due to these fraudulent acts is billions of dollars. These activities are carried out so elegantly so that it is similar to genuine transactions. Hence simple pattern related techniques and other less
complex methods are really not going to work. Having an efficient method of fraud detection has become a need for all banks in order to minimize chaos and bring order in place. There are several techniques like Machine learning, Genetic Programming, fuzzy logic, sequence alignment, etc are used for detecting credit card fraudulent transactions. Along with these techniques, KNN algorithm and HIDDEN MARKOV MODEL is implemented to optimize the best solution for the problem. This approach is proved to minimize the false alarm rates and increase the fraud detection rate. Moreover the behaviour analysis process of the HMM method helps in minimizing the fraud rates thus retaliate further fraudulent activities more efficiently.

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**Index Terms**

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**Keywords**

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