A Novel Idea for Credit Card Fraud Detection using Decision Tree

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Abstract

Online shopping and banking has increased by the growth of internet and by use of credit card. Along with this number of credit card fraud is also increased. Many modern techniques based on Artificial Intelligence, Data warehousing has evolved in detecting various credit card fraudulent transactions. We proposed a system which detect fraud in credit card transaction processing using a decision tree with combination of Luhn's algorithm and Hunt's algorithm. Luhn’s algorithm is used to validate the card number. Address matching rule checks whether the Billing Address and Shipping Address match or not. This check does not guarantee whether a transaction is fraud or genuine. But if the two addresses match, the transaction can be classified as genuine with a high probability. Else, the transaction is labelled as suspect. A customer usually carries out similar types of transactions in terms of amount, which can be visualized as part of a cluster. Since a fraudster is likely to differ from the customer’s account, his transactions can be detected as exceptions to the cluster – a process known as outlier detection.
References

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Index Terms

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Keywords

Electronic Commerce, Credit card fraud, address matching, spending pattern, Luhn's Algorithm, Outlier Detection, Heuristic function, Bayes Theorem.