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| Title | Utilization of Machine Learning Strategies in the Investigation of Suspected Credit Card Fraud | | |
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| Published Journal Name | Int. J. Advanced Networking and Applications | | |
| Type of Publication | Journal | | |
| Volume | 15 | Issue | 2 |
| Publisher | Eswar Publications | | |
| Publication Date | August 6, 2023 | | |
| ISSN | 0975-0282 | | |
| DOI | 10.35444/IJANA.2023.15205 | | |
| URL |  | | |
| Other Related Info. |  | | |
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| Abstract |  |
| Credit card fraud transactions have been one of the most difficult issues for banks and other financial institutions in recent years. In such events, billions of dollars are lost by financial institutions and the banking system. Concurrently, user information is not safe for that purpose. To address these issues, this paper proposes an efficient solution to automate the task using machine learning techniques such as SMOTE and ADASYN. This paper also intends to run machine learning supervised models. We discovered class imbalance issues after examining the experiment outcomes on European cardholder datasets. Oversampling and under sampling strategies are utilized to solve fraud situations to avoid them. Predictive models such as the LR, K-nearest neighbors, decision tree, random forest XGBoost, and support vector machines are utilized to achieve the model  accuracy required to find the most fit-able models for credit card fraud. The performance of SMOTE machine learning approaches increased with a 0.96 model accuracy in random forest and XGBoost. | |