SIMATS ENGINEERING
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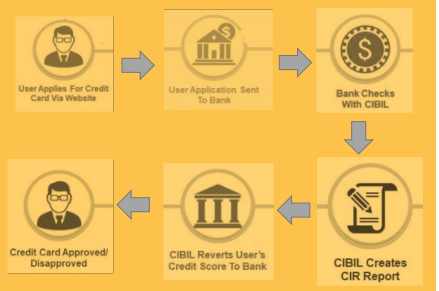
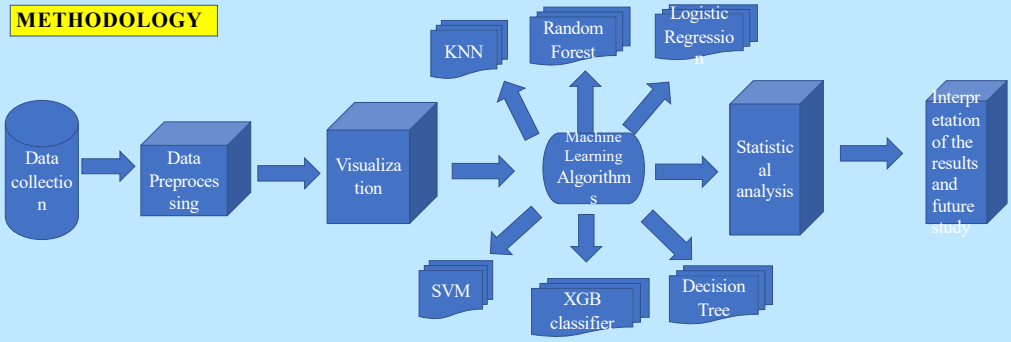
Prediction of Credit Card Approval Using XGB Classifier Algorithm and Compared with Other Machine Learning Algorithms

INTRODUCTION

- The purpose of this research is to develop a model that can forecast if a financial institution will be able to approve credit cards for its clients.
- Credit card usage has increased significantly as a result of the internet's expansion. It is currently one of the most widely utilised payment options
- To prevent fraud, which could result in financial institutions losing money, this approach can help an organisation decide precisely whether to approve or reject a credit card.

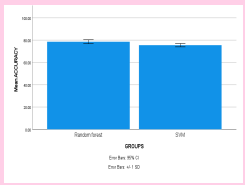


METHODOLOGY

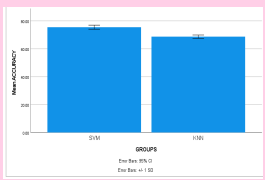


RESULTS


Logistic Regression vs Decision tree


Random forest vs SVM


Decision Tree vs XGB classifier


SVM vs KNN

- Graphical representation of mean accuracy values for different machine learning logarithms
- Based on the results, it can be concluded that the XGB classifier algorithm performs better than its predecessors

DISCUSSION AND CONCLUSION

- From this research it can be concluded that the XGB classifier Algorithm is more effective than the other algorithms namely KNN, Decision Tree, SVM, Logistic Regression, Random Forest, Mean accuracy with 90.35%.
- The two-tailed test significance values p = 0.001 ($p<0.05$) indicate that they are statistically significant and there is difference between the two groups.
- overall accuracy values of machine learning algorithms are :
  - Logistic Regression : 55.5%
  - Support vector machine : 75.5
  - Random Forest : 78.5%
  - KNN : 68.7%
  - Decision Tree : 85.1%
  - XGB classifier : 90.3%

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