Credit Card Fraud Prediction using IBM Auto AI

1. Introduction

1.1 Overview

Now a days credit card frauds are increasing day by day. The encouragement of online transactions increases the risk for online frauds. Because of increase in fraud rates, researchers started using machine learning techniques to find and analyse frauds in online transactions [1].

1.2 Purpose

This project discusses building a system for creating predictions that can be used in different scenarios. It focuses on predicting fraudulent transactions, which can reduce monetary loss and risk mitigation. This project aims at building a web App which automatically estimates if there is a fraud risk by taking the input values [2].

2. Literature Survey

2.1 Existing Problem

The fraud usually occurs when someone accesses your credit or debit card numbers from unsecured websites or other means to unfairly obtain money or property. It is crucial to identifying when a transaction is fraudulent. Because of the large amount of data present for each customer and each financial activity, artificial intelligence methods can be utilized to effectively identify suspicious transactions. It may be happened that on some cases, your credit card blocked when you trying to make a simple purchase. When it happens, your bank or credit card issuer may have detected a suspicious activity, which is a false positive [3].

2.2 Proposed Solution:

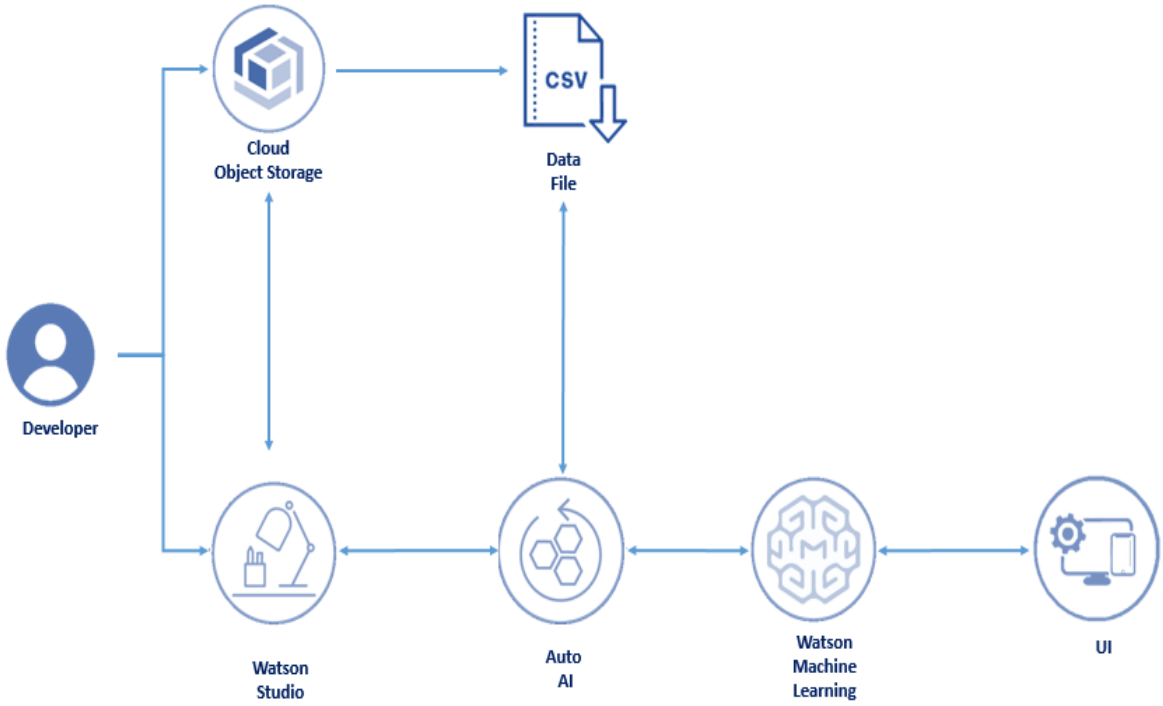
Using IBM AutoAI, we automate all of the tasks involved in building predictive models for different requirements. So In this project IBM AutoAI used to build a predictive

model to find out transaction is fraudulent or not [2]. The following service is used to build a web application for the same [2].

- IBM Watson Studio
- IBM Watson Machine Learning
- Node-RED
- IBM Cloud Object Storage

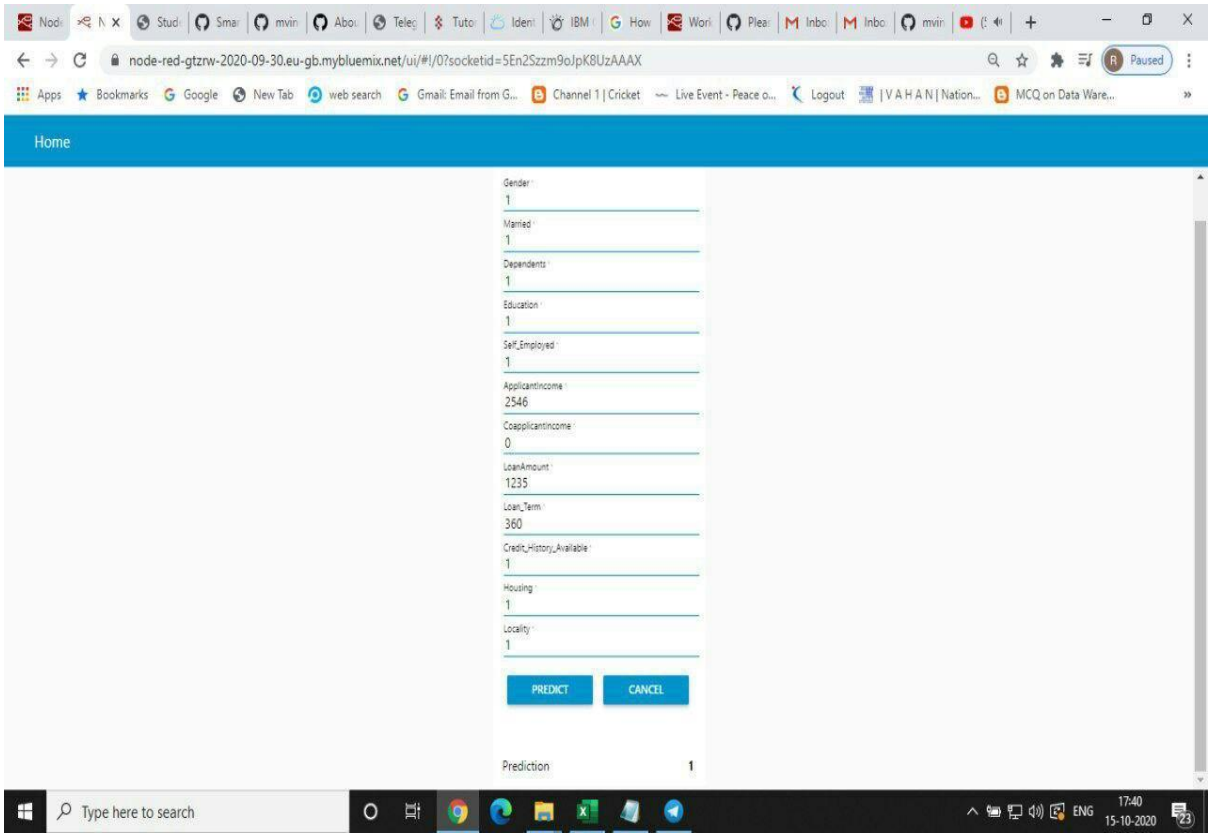
3. Architecture

he figure depicts the flow and connectivity among services in model [2]. To train the model dataset is taken from [4].



4. Experimental Investigations

The image shows that for the given input of various parameters prediction is 1 indicates positive class.



5. Conclusion

Credit Card Fraud Prediction is a typical example of Binary classification. The model build using IBM AutoAI is used to identify whether a new transaction is fraudulent or not. Accuracy of model is 93%.

References

[1] Suraj Patil*, Varsha Nemade, PiyushKumar Soni, “Predictive Modelling For Credit Card Fraud Detection Using Data Analytics”, International Conference on Computational Intelligence and Data Science (ICCIDS 2018), Procedia Computer Science 132 (2018)

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[2] Problem definition available at https://smartinternz.com/Student/badge_workspace/6215

[3] Rafael Bastos: Classifying and evaluating credit card transactions with logistic regression and decision tree, [Available Online] https://medium.com/analytics-vidhya/detecting-fraudulent-credit-card-operations-with-machine-learning-algorithms-88670bf00275

[4]Dataset Available at https://github.com/IBM/predict-fraud-using-auto-ai/tree/master/data