Credit Card Fraud Prediction using IBM Auto AI

Project Organized By : IBM, Smart Internz, IEEE Sup'Com

CHAMMAM Ayoub Mhadheb

February / March 2021

1.INTRODUCTION

1.1 Overview

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.

1.2 Purpose

This project aims at building a web App which automatically estimates if there is a fraud risk by taking the input values.

2. LITERATURE SURVEY

2.1 Existing problem

redictions are very important in this field of application. Using machine learning algorithms by importing the required libraries and functions, this task takes a lot of time and is not automated using IBM Auto AI.

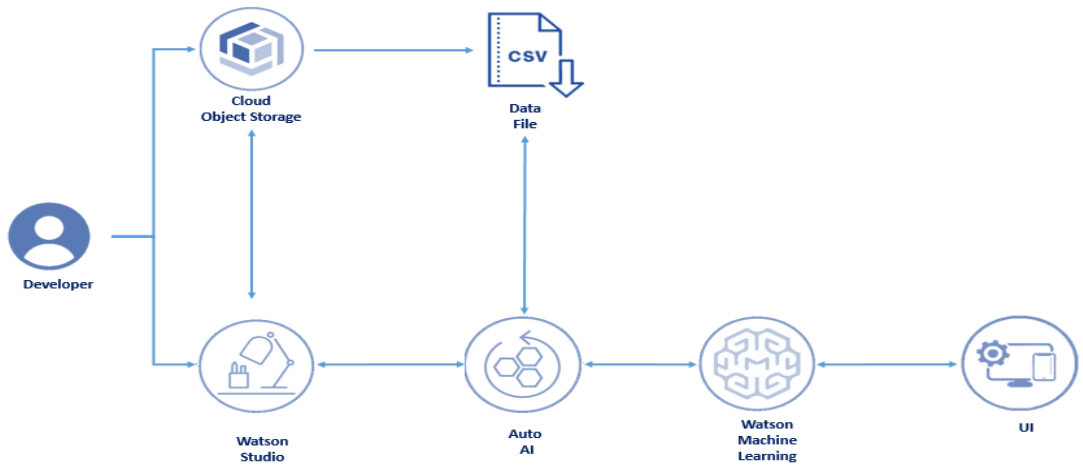
In factm buiding an AI Model has been reduced from days to hours thanks to AutoAI. For a developer or a data scientist who wants to build the model quickly and deploy it for being in production ready AutoAI is the solution for that which will help in taking decisions faster and gives detailed overview of the attribute relationships within the data we have.

2.2 Proposed solution

Using IBM AutoAI, we automate all of the tasks involved in building predictive models for different requirements. You create a model from a data set that includes the gender, married, dependents, education, self employed, applicant income, co-applicant income, loan amount, loan term, credit history, housing and locality.

3.THEORITICAL ANALYSIS

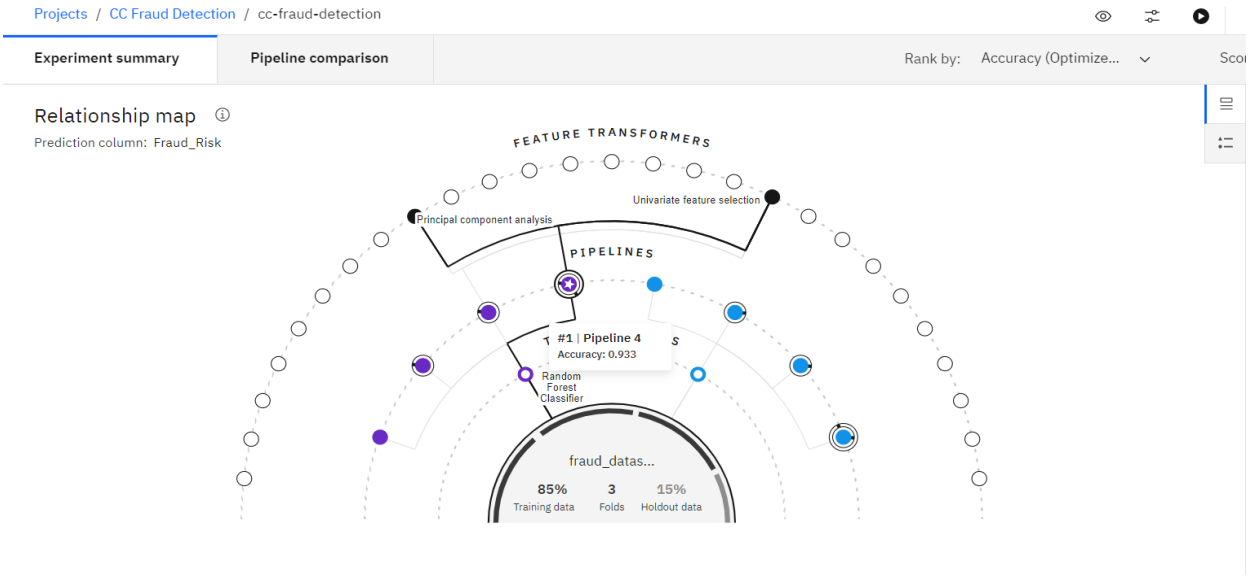
3.1 Block diagram

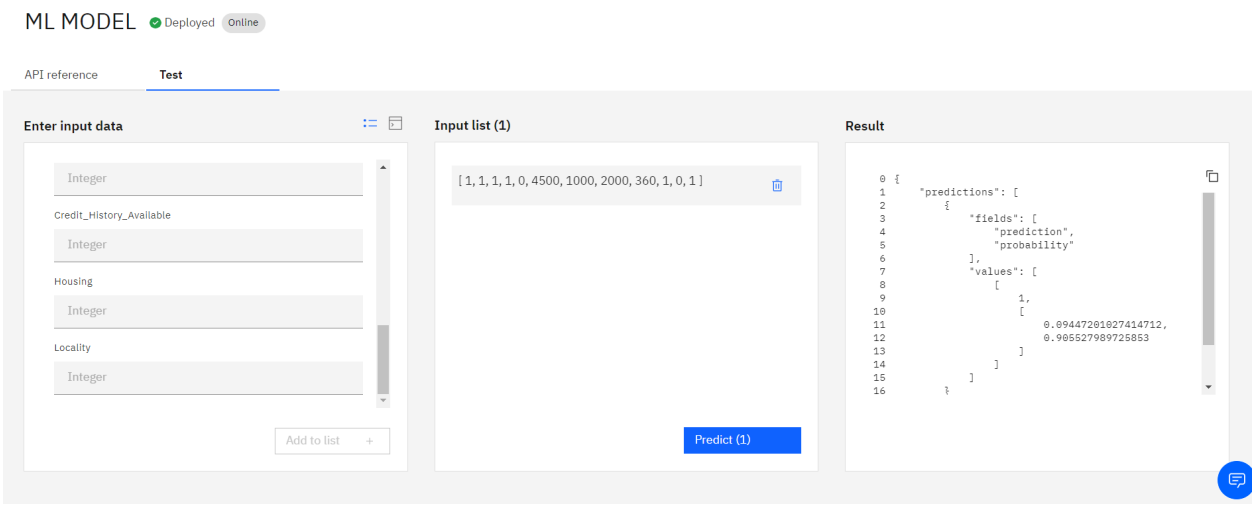


3.2 Hardware / Software designing

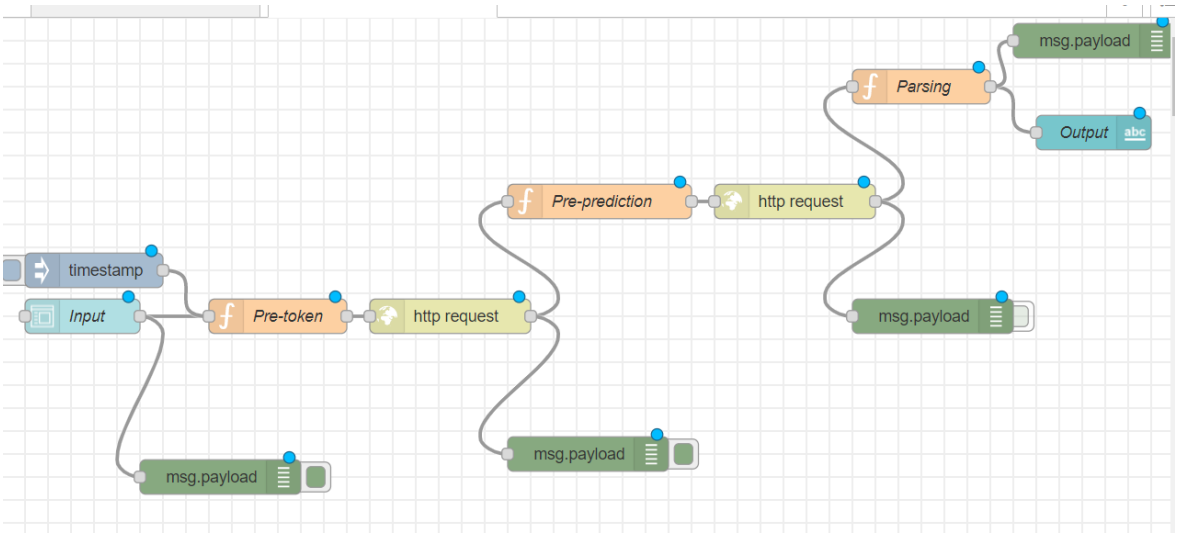
1. IBM Watson Studio
2. IBM Watson Machine Learning
3. Node-RED
4. IBM Cloud Object Storage

4.EXPERIMENTAL INVESTIGATIONS

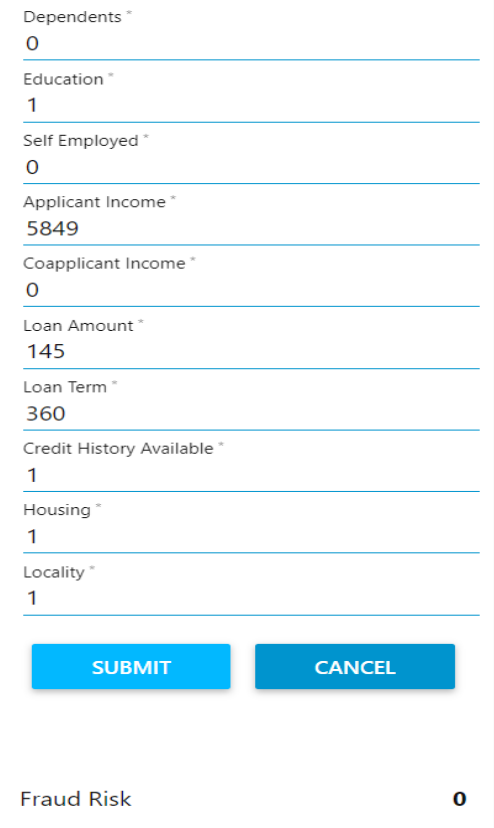



ML MODEL
Deployed
Online
API reference
Test
Enter input data
Integer
Credit_History_Available
Integer
Housing
Integer
Locality
Integer
Add to list
Input list (1)
[1, 1, 1, 1, 0, 4500, 1000, 2000, 360, 1, 0, 1]
Predict (1)
Result
{
"predictions": [
{
"fields": [
"prediction",
"probability"
],
"values": [
[
1,
[
0.09447201027414712,
0.905527989725853
]
]
]
}

5.FLOWCHART


msg.payload
Parsing
Output
Pre-prediction
http request
timestamp
Input
Pre-token
http request
msg.payload
msg.payload
msg.payload

6.RESULT



7.ADVANTAGES & DISADVANTAGES

Advantages	Disadvantages
Fast model selection (top performing models only	maintenance
Start quickly (Experimentation, evaluation, deployment	doesn't process structured data directly
Better AI Lifecycle management (Consistency, Repeatability of End-to-End ml and AI development	Increasing rate of data, with limited resources

8.APPLICATIONS

HealthCare, Legal, Retail, Financial..

9.CONCLUSION

This project focuses on predicting fraud in transactions, this can reduce monetary loss and risk mitigation.

10. FUTURE SCOPE

Scale to deep learning to analyze it deeply

11. BIBILOGRAPHY

https://smartinternz.com/ibm-project/83

APPENDIX

GitHub Repo:
https://github.com/SmartPracticeschool/SPS-6811-Credit-Card-Fraud-Prediction-using-IBM-Auto-AI/tree/main/Links
Notebook Link:
https://dataplatform.cloud.ibm.com/analytics/notebooks/v2/3d9da832-47ae-4323-bc9c-924202387a51/view?access_token=d8a8cdd260a92e5d11583035cfbd2e73a1eec0522fab3ffc5181b2b41a9ad602