Financial Risk Prediction Using IBM Auto AI

1.INTRODUCTION

a.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 by building a web application.

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.

b.Purpose

Financial risk prediction is an important and widely studied topic in the domain of financial analysis since it can help companies to detect financial risks in advance and take appropriate actions to minimize the defaults.

Financial Risk Prediction is the activity of monitoring financial risks and managing their impact.It is a sub-discipline of the wider task of managing risk,that is,contolling the effects of uncertain and generally adverse external developments (or events) on the firm's activities or projects.It is a practical of modern finance theories,models and methods.

2.LITERATURE SURVEY

a.Existing problem

Some of the common and distinct financial risks include credit risk, liquidity risk, and operational risk.Financial risk is a type of danger that can result in the loss of capital to interested parties. For governments, this can mean they are unable to control monetary policy and default on bonds or other debt issues

b.Proposed Solution

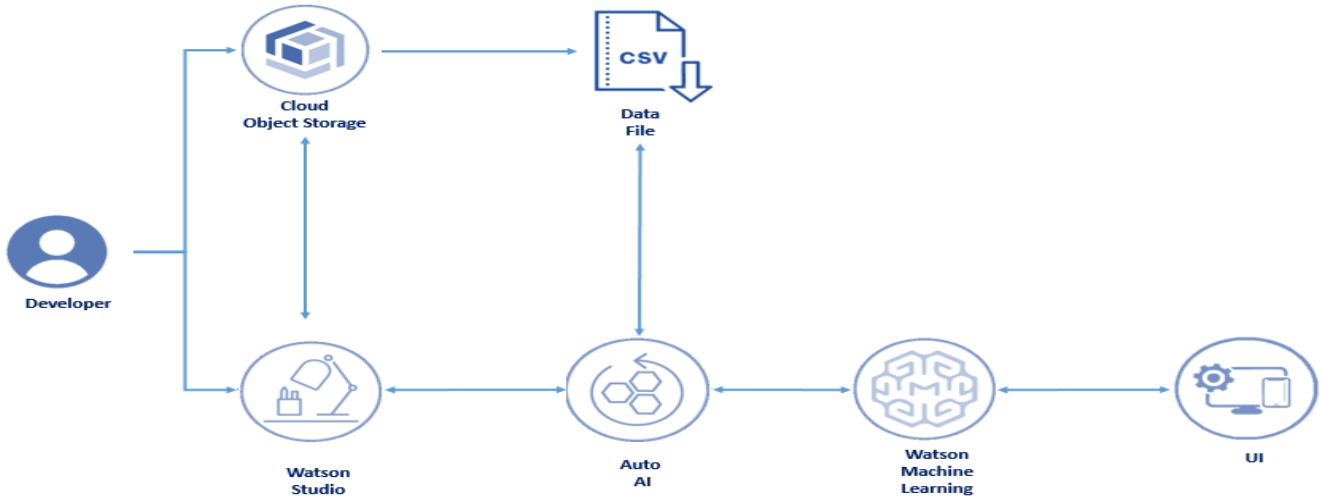
The Proposed Solution for the Financial Risk Prediction is by using IBM Auto AI and Node Red Services which are used to build the Application by taking the inputs from the user and showcases the prediction on UI.

The services used in this are:

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

3.THEORETICAL ANALYSIS

a.Block Diagram

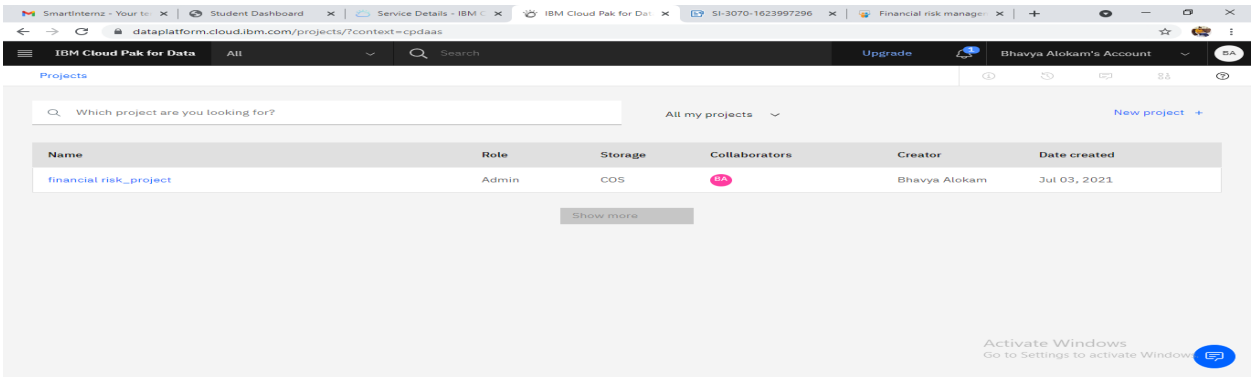


4.Experimental Investigation

- The First Step is to collect the Dataset.The Dataset contains the following fields:

- Gender,
- Marital Status
- Dependents
- Education,
- Self-employed
- Applicant income
- Co-applicant income
- Loan amount
- Loan term
- Credit history
- Housing
- Locality.

- The Next Step is to Create Watson Studio Project.

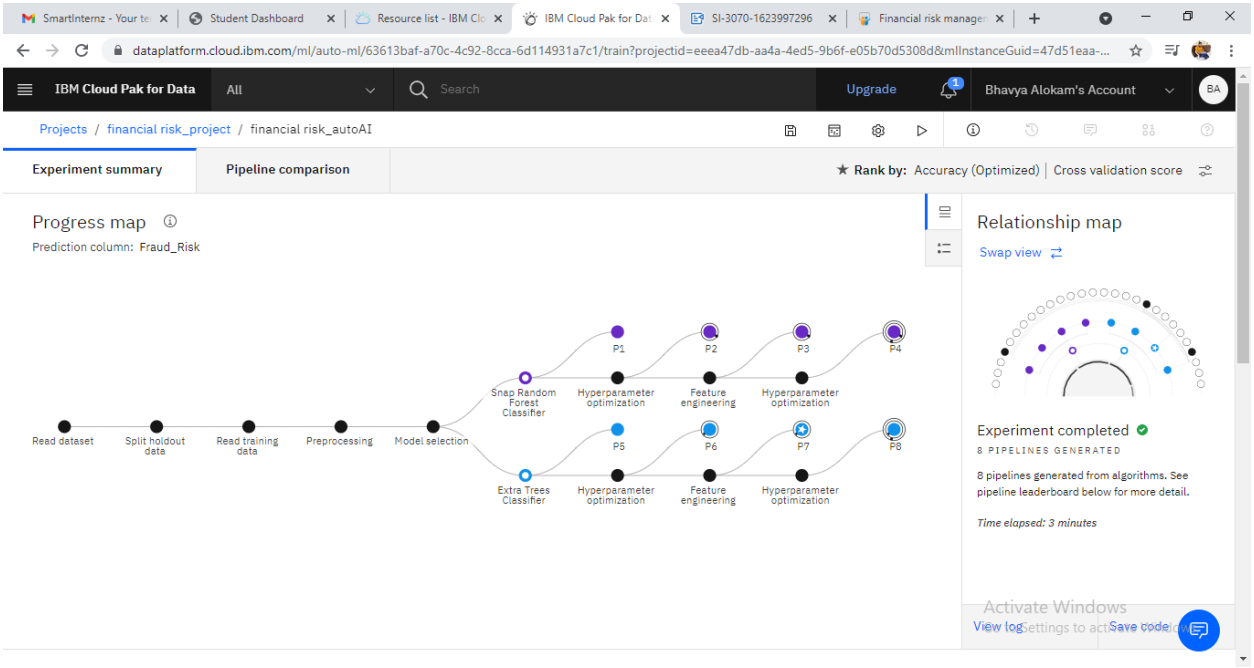


- After the creation of project in watson you have to create an Auto AI Experiment.

To add the project

- Click on Add Project from Watson Studio project
- Select Auto AI
- Specify a name and description for your experiment.
- Select a machine learning service instance and click Create

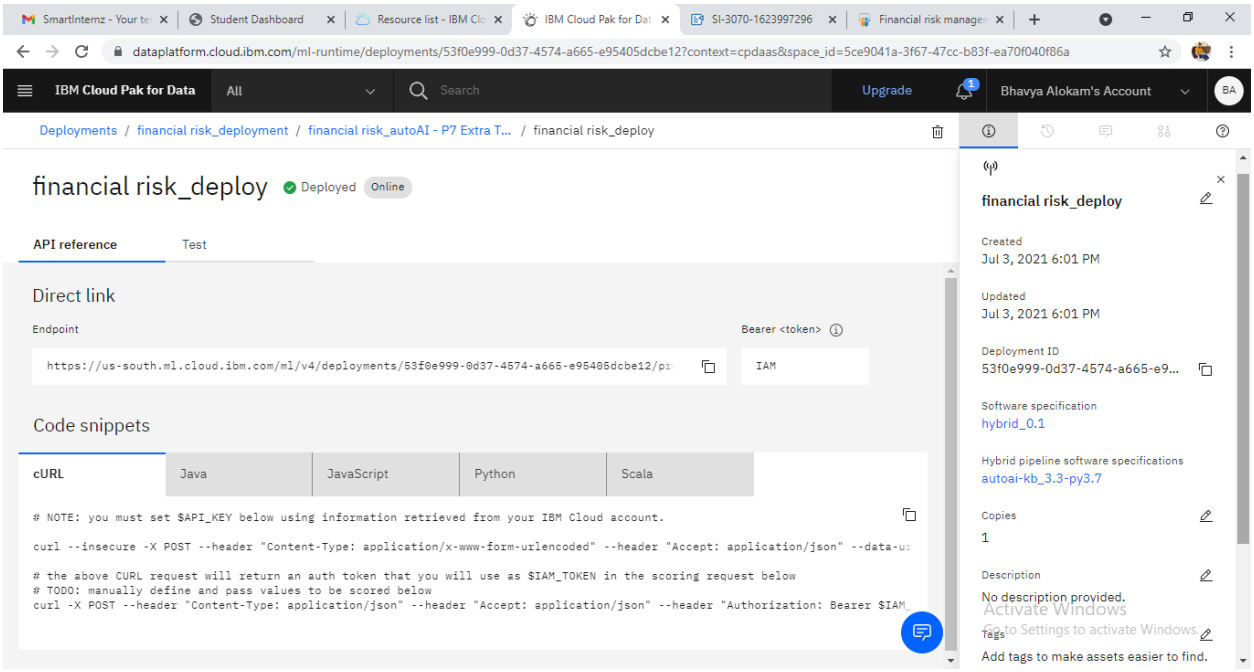
- Upload the Fraud dataset and run the Auto AI Experiment

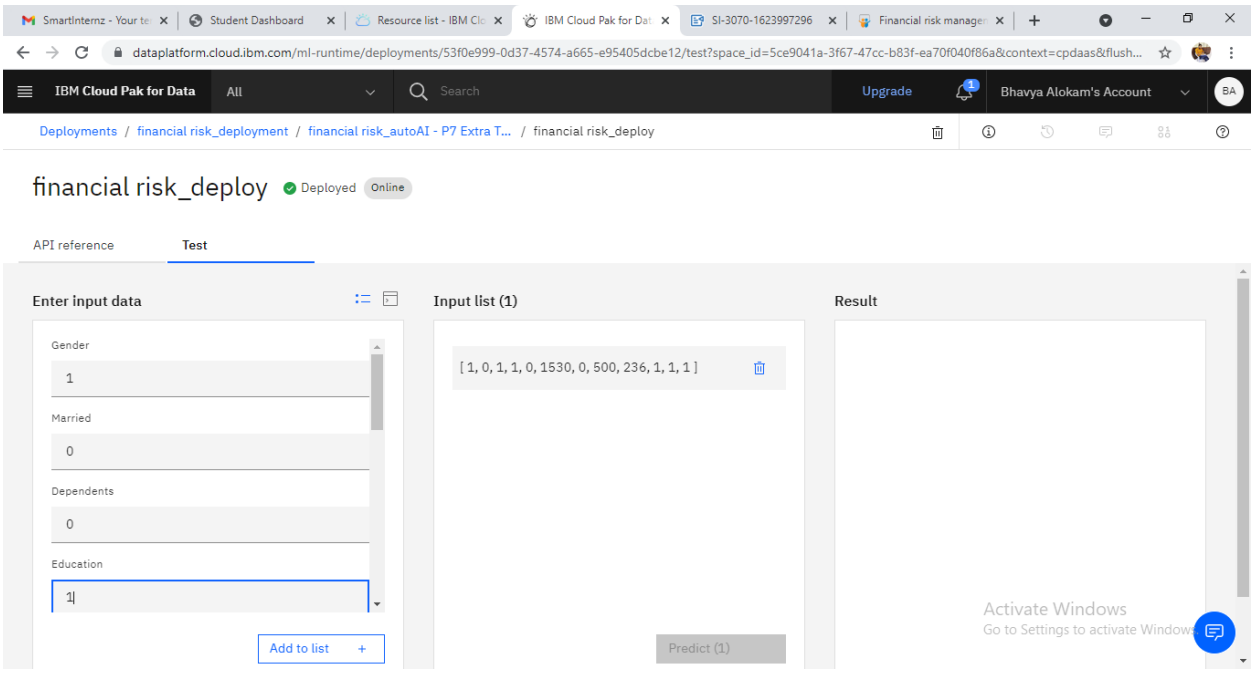


- Later on save the model and Deploy and test the Model

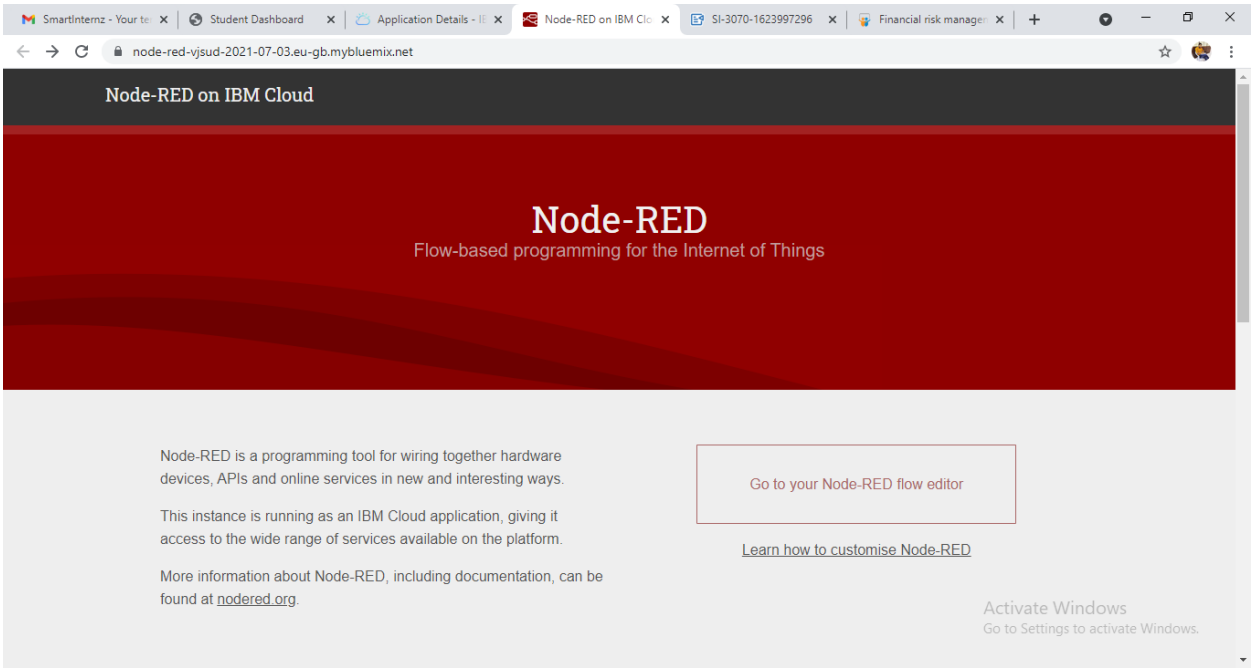
Once the pipeline creation is complete, you can view and compare the ranked pipelines in a leaderboard.
Choose Save model from the action menu for the pipeline with the highest accuracy or low error rate This saves the pipeline as a Machine Learning asset in your project. A notification gives you the link to view the saved model in your project.

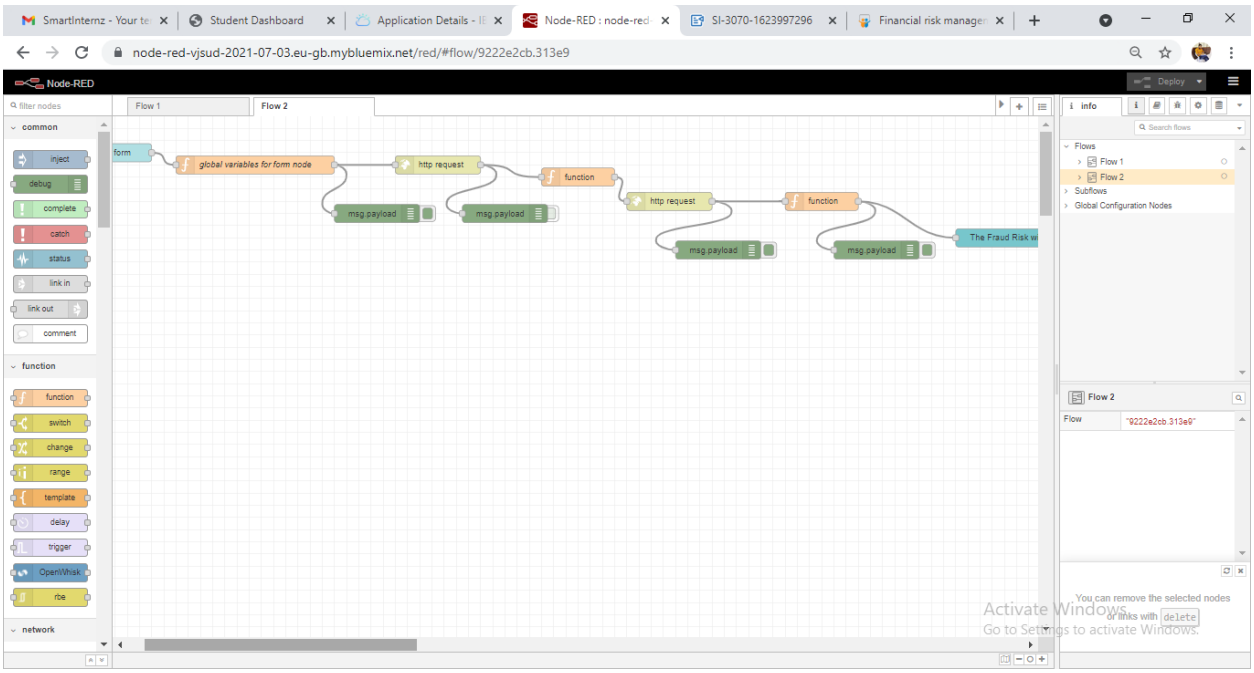
➢ Deploying the Model and Testing with various inputs





The Final Step is to build the node red application





5.RESULT

If we enter the values of Gender,married,dependents,etc then the model will predict the financial risk.

6.Advantages of Financial Risk Prediction

- Gain clarity on what is working and what is not working.
- Provide a solid groundwork for decision making.
- Assess financial risk.
- Build a strategic plan.
- Prepare for growth.
- Reach or build profitability.

7.Disadvantages of Financial Risk Prediction

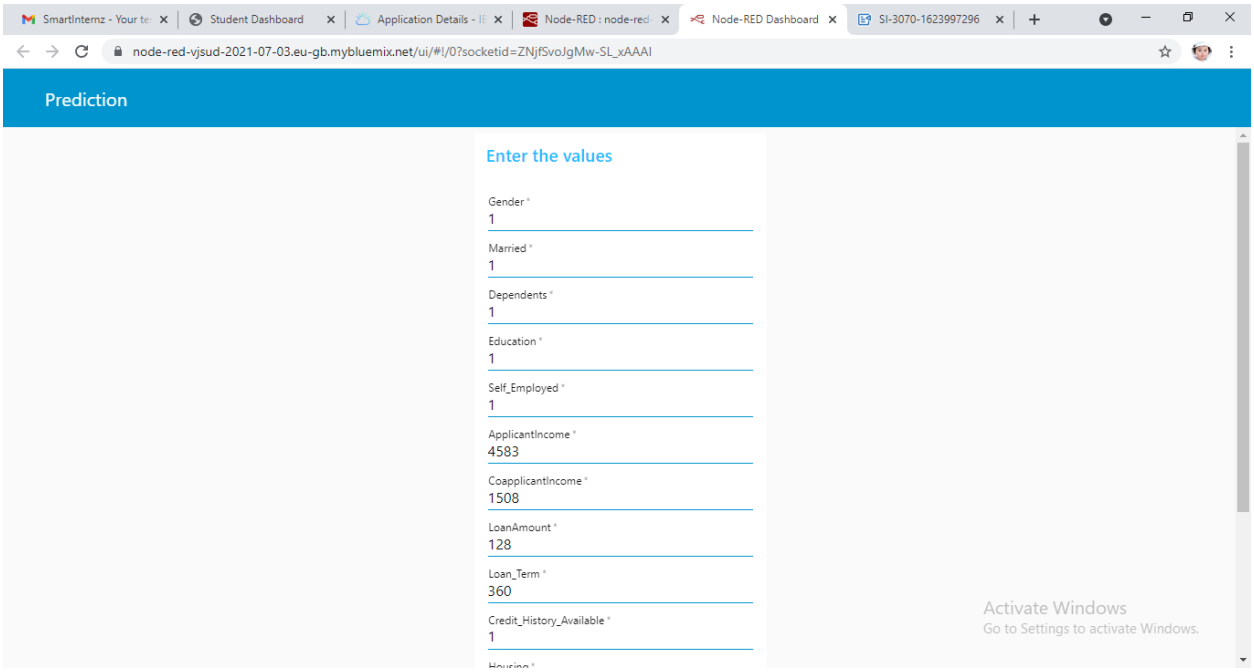
- Can Create Catastrophic Result
- Long-Term Effects

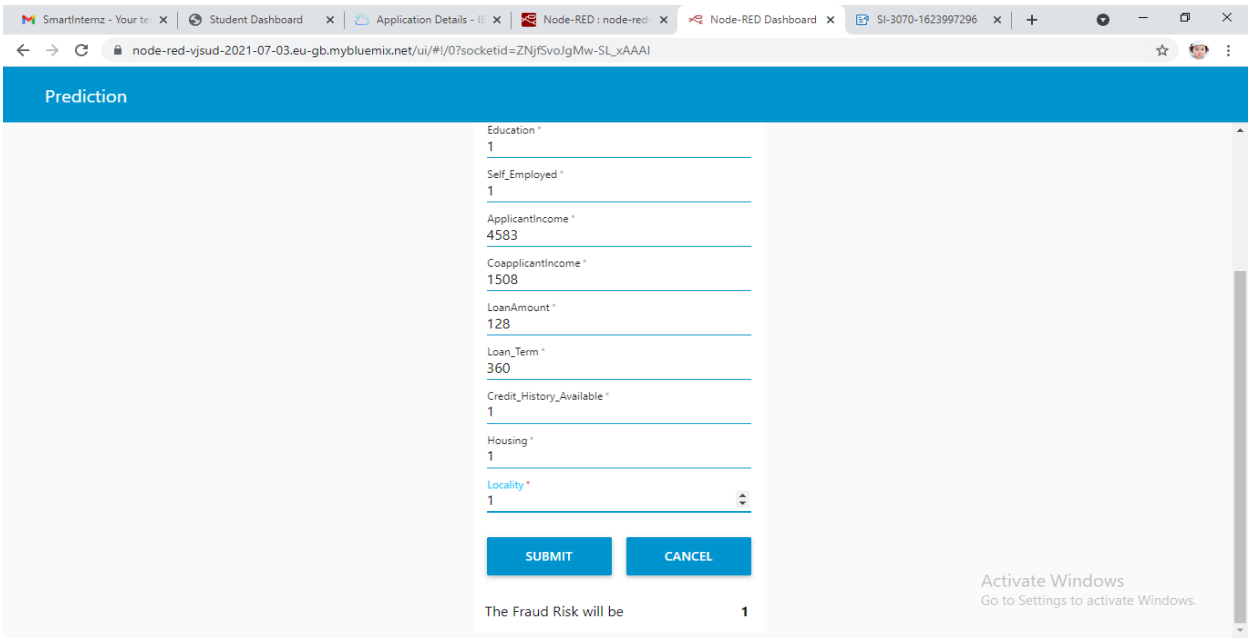
- Cannot be Control

8.Conclusion

Therefore we can predict the fraud risk by using the IBM and Auto AI Experiment

9.UI Output ScreenShot





10.Future Scope

The Financial Risk prediction model can be used anywhere by connecting through the internet

11.Biblography

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